



PUSA

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U. P. A. S. I.

INCORPORATED.

Planters and Sir Roper Lethbridge.

Seldom has there been a more interesting feature of the work of the U. P. A. S. I. than that which has to be referred to to-day, *viz.* the conference that representatives of the South Indian Tea Industry and the Association held with Sir Roper Lethbridge on the 28th January, 1909. The special subjects selected for discussion were the British Tea-Duty and the work of the Anti-Tea-Duty League; but, as Sir Roper was known to have interested himself with characteristic enthusiasm in the Arsikere-Mangalore Railway project, this subject was also taken up.

The following is an authorised summary of the Proceedings:—

Minutes of Proceedings of a Conference held at Bangalore on the 28th January, 1909.

Representatives of the U. P. A. S. I. met on the 28th January, 1909, at the West End Hotel, Bangalore, to confer with Sir Roper Lethbridge, K. C. I. E., on matters relating to the Tea Industry. The following were present:— Mr. J. G. Hamilton, Chairman, Mr. J. A. Richardson, Vice-Chairman, U. P. A. S. I., the Hon'ble Mr. C. E. Abbott, "Planting Member" of the Legislative Council of Fort St. George, Mr. K. E. Nicoll, of the Mundakayam Rubber Planters' Association, Mr. George Romilly, Mr. L. E. Kirwan, and the Secretary of the U. P. A. S. I.

Mr. Hamilton took the Chair, and after welcoming Sir Roper Lethbridge on behalf of the Planting community, invited him to address the Meeting on the subject of the Anti-Tea-Duty League and its work.

The British Tea-Duty and the Work of the Anti-Tea-Duty League.

SIR ROPER LETHBRIDGE stated that he was glad to see so many of the recognised leaders of the Tea Industry in South India present at the Meeting. He then said:—

As President of the Anti-Tea-Duty League, I was asked by the Executive Committee to take the opportunity of a winter's tour in Ceylon and India, undertaken for the sake of health and of meeting old friends, to ascertain from the Planters and Distributors out here what their wishes are in regard to continuing the work of the League till the next General Election.

I think it may serve a useful purpose if I explain in a word or two the constitution of the Anti-Tea-Duty League. It was the creation of the brain and genius of the late Mr. Herbert Compton, formerly a North Indian Tea-planter. Aided by Mr. Roberts, Mr. Stanton, and one or two others, he got together an Executive Committee of representative men of the Indian and Ceylon Planting and Distributing Industries, and appealed to India and Ceylon for the sinews of war. He himself became the Secretary of the League and its motive spirit—but the Executive Committee has always had absolute control of the

actions and policy of the League, and of the collection and expenditure of its funds. The Executive Committee invited about a dozen gentlemen, politically or otherwise interested in the welfare of the Tea Industry, to become President and Vice-Presidents of the League. These were not to have any executive authority, but to form a sort of Advisory Committee, and represent in speeches or writings the policy and aims of the League.

The considerations in favour of dissolving the League and leaving the industry to the tender mercies of the Chancellor of the Exchequer, are these:—

- (a) Looking to the enormous deficits that Mr. Lloyd-George and his successors will have to face this year and in the near future, there is practically no probability of obtaining any further remission, beyond the 3*d.* a lb that the League has already won for the Industry, for a long time to come. The splendid opportunities of last year and the year before—when the sugar-men and the coal-exporters got all they asked for—was lost by the dissensions in the Tea Industry, which encouraged the Liberal Members of Parliament who had promised to vote for a reduction, to consider themselves released from an awkward pledge. Circulars like those of Messrs. McMeekin & Co., and the crusade that was started in a part of the Calcutta press to maintain the high duties, were of course put before the Chancellor of the Exchequer, who was probably only too delighted to find that he had such warm allies in the Tea Industry.
- (b) Now that a Liberal Government is in power, and it becomes a question of putting pressure on a Liberal Chancellor of the Exchequer, the forces of those members of the Industry who are in favour of a high duty are to some extent reinforced by the perhaps natural dislike of Liberal members of the Industry to appear to side against their own Party. When the Unionist Government was in power, I can show that the Conservative members of the Industry, of whom I was one, were quite as eager as their Liberal leaders to put pressure on Mr. Austen Chamberlain—and we forced him to take 2*d.* off the duty. But now it is otherwise, as shown by recent divisions in the House of Commons and by discussions in the Press and in trade-circulars. I blame no one; but the fact is as I have stated, and has to be reckoned with.

The considerations in favour of continuing the work of the League are these:—

- (a) If the League disappears, the Tea Industry obviously becomes the most tempting "hen roost" to rob for the purposes of the State. The tax is most easily collected; and the supporters of the present Government in England—see some telling remarks in the *Daily Chronicle* received by this week's mail, which paper may be relied on to give us Mr. Asquith's and Mr. Lloyd-George's own views—are already beginning to point out that the tax may be easily and readily increased. For the consumers of tea, who possess the vote, in the United Kingdom are not in the least likely to protest—for the richer among them do not feel the tax, and the poorer do not understand its incidence unless it be pointed out to them by powerful appeals like those of the late Mr. Herbert Compton.
- (b) The exigencies of the Government, caused by the Old-Age Pensions, and by the abandonment of other taxation, are certain to be so overwhelming, that a tax which is commonly regarded (though I think wrongly) as a Free Trade tax is practically certain to be increased, rather than diminished, if there be no organised opposition to its increase. The Income-tax payers are strongly organised, so are the sugar-men, so are the coal-exporters, so are the licensed trades, and so are most of the other hen-roosts. For the Tea Industry to abandon its organisation is obviously to invite increased taxation.

I have put the points before you *pro* and *con*, I hope quite fairly, which may guide you in deciding whether it is worth while to continue the work of the League. The Ceylon Planters have, I think, very generally de-

cided that it is worth while—but obviously, unless they are supported by the whole body of Indian Planters, both South and North, it would be idle for them to attempt it, especially now that the Home Government has vetoed the continuance of the Ceylon Tea Cess in any shape or form, and has forbidden the application of Cess Funds to any propaganda of this sort. Neither the President nor the Vice-Presidents of the League have any connection either with the collection of the Funds of the League, except as humble contributors thereto, nor with the expenditure—that is entirely in the hands of the Executive Committee and of the paid Secretary acting under their orders. But I do not trench on their province when I point out the fact, obvious to any person of ordinary intelligence, that their work cannot be carried out without adequate funds—Mr. Compton had so large a sum as £4,000 to work with from the Cess funds alone. Of course the Executive Committee, like the President and Vice-Presidents, give their own time and labour, as well as their own contributions, out of a love for the cause, but the office-work of the Secretary and his assistants, their travelling and other expenses, and above all the literature, the posters, the rent of rooms for Meetings, and so forth, must be provided by the subscriptions.

I have now dealt with all the points that had cropped up before I left England. But since I have been in Ceylon and India, I have observed, to my great astonishment, in some correspondence between the Calcutta Tea Association and the Indian Tea Association in London, complaints about the recent "methods" of the Anti-Tea-Duty League. Now, complaints to that effect were only too plentiful during the Secretaryship of Mr. Herbert Compton, but they were almost entirely from those who wished to maintain the high duties and wished ill to the League. Ultimately advantage was taken of the fact that Mr. Compton used, in one of his posters, an expression that was stated to offend the propriety of some of the supporters of the League. I do not defend that expression, which contained the word "damned," but I have always held, and still hold, that the matter was absurdly exaggerated. You all know that that comparatively trivial offence, and other complaints, at last led to his dismissal—against which I protested at the time—and subsequently he, who had been the very life and soul of the League, who had indeed been the League itself, was unhappily led to commit suicide as a broken-hearted man. After his death, the League was for a time absolutely quiescent—on the ground that the new Chancellor of the Exchequer, Mr. Asquith, was the true friend of the Industry, being pledged to a "Free Breakfast-table." But Mr. Compton, before his death, had selected Mr. Cope to be his assistant, and when Mr. Asquith failed us, Mr. Cope stirred up the organisation once more, and since then has done very good work for the cause, both by his writings in the Press, and by work (so far as he could obtain money for it) at bye-elections. He has always supported that candidate, irrespective of Party, who would promise to vote for a reduction of the duty; and in this way, he certainly has, in a humble way, commensurate with the great reduction in the financial power of the League, helped to secure that reduction, or, at any rate, to oppose an increase of the duty. I shall be very curious to learn what the critics find in Mr. Cope's work to complain of. I know for a fact that he has not used any "big D's" either in his literature or in his posters. Moreover, it must be remembered that he has never had the free hand that Mr. Compton had. Everything he has done has been done under the supervision and with the sanction of such honoured leaders of the Tea Industry as Mr. Roberts, Mr. Talbot, Mr. Verner, and the other members of the Executive Committee, and with regard to these last-named, I will venture to say this, that any direct or implied censure of their "methods" would be instantly followed by the resignation of the President of the League, and I firmly believe that of every Vice-President also.

The suggestion—which I have seen hinted, rather than stated—that the League has taken up a partisan attitude in politics, is simply preposterous. If it be honestly advanced, which is difficult to believe, it can only be by those who are either laughably ignorant of English politics, or who have not taken the trouble to follow what the League has done. For what are the facts? At the time of the General Election, our President was Sir West Ridgeway, the

Radical Candidate for the City of London, our Secretary was Mr. Compton, a Free Trader, and our most active Vice-President was Mr. J. D. Rees, the Liberal Member for the Montgomery Burghs. In that General Election we actively supported 164 candidates, of whom 163 were Liberals, and 1 was a Conservative. But why was this? Simply because these 163 Liberals and 1 Conservative were those candidates who gave the League a pledge to support a reduction of the Duty! Out of these candidates, the League was largely responsible for the triumphant return to the present Parliament of 140 Ministerial members and 1 Conservative—and of these pledged members of Parliament, when the divisions last year were called on the question of the reduction of the duty, the one Conservative member and 14 of the Ministerial members voted for the reduction, 63 of the Ministerial members voted against the reduction, and 63 of the Ministerial members—the same number, accidentally—absented themselves from the divisions. On these facts, which cannot be disputed, it seems to me outrageous to charge the League with partisanship either on the Liberal or on the Conservative side.

The only colourable pretence for such a charge must be either—(1) the fact that the League supported such an overwhelming number of Liberal candidates at the General Election, but that was simply because the Liberal candidates pledged themselves to the League, and only 1 Conservative candidate consented to do so—or (2) because the League protested against the action of the 126 members (all Liberals) who had promised at the Election to vote for a reduction, and after Election had failed to fulfil those promises, and here again the action of the League was simply governed, not by the politics of the pledge-breakers, but by their actual votes in the House of Commons.

Personally, I am bound to say that it seems to me that the complaints that appear to have been made against Mr. Cope, or against the League generally, have been based mainly on a misapprehension of the facts—aided doubtless in some cases by the political partialities of those who have started the complaints. As those complaints have only assumed tangible form, in the correspondence I have alluded to, since I left England, I am of course unable to say what course the Executive Council of the League may see fit to take in regard to them. But speaking only for myself, I may say that I have no doubt whatever that if there should turn out to be any ground for the statement that has been publicly made that the League does not possess the full confidence of the Tea Industry out here in India, every office-bearer in the League will instantly resign in order to make room for those who may be more fortunate.

But at the same time, I think that that is a step which should not be lightly taken, as it seems very likely that, as in the case of the complaints made against Mr. Herbert Compton, these complaints may originate either entirely out of a misapprehension, or out of a misapprehension on the part of most members of the Tea Industry, aided by the desire of a microscopic minority to cripple the work of the League and to maintain the high duties. Anyhow, I venture very respectfully to submit to the members of the Indian Tea Industry that, after the publication of the correspondence to which I have alluded, the real and well-considered view of the Tea Industry as a whole should be clearly and unmistakeably expressed.

In conclusion Sir Roper Lethbridge observed that it was a fortunate thing that the Industry had come forward to welcome the President of the League, with full authority on the part of the Industry to express their views on the points he had mentioned.

Mr. Hamilton.—"Who is it that has been complaining against the action of the League?"

Sir Roper Lethbridge.—"I do not know. The Proceedings of the Indian Tea Association were published in *The Planters' Chronicle*, and in them it was stated that objection had been taken—I have no details, nor do I know the names of the objectors—to the recent methods of the League, and it had been suggested that Sir James Buckingham should be appointed Secretary to the League in place of Mr. Cope.

"Sir James Buckingham is an old and valued friend of mine, and I should be more than delighted to see him occupy any office in the Anti-Tea-Duty League he might care to accept. For instance, if he would be willing to become President of the League, I would most gladly resign that office to-morrow and move the Executive Council to appoint him in my place—and I should be delighted to serve under him—and that is practical politics. But I do not believe for one moment that he would dream of accepting the post of paid Secretary to this League, even if it were fair and right (which I distinctly think it would not be) to dispossess Mr. Cope in his favour. As the honoured Secretary of the Indian Tea Association he occupies a far more important position already. And I am quite certain he would feel that the hard electioneering work that necessarily devolves on the Secretary of the Anti-Tea-Duty League is altogether outside his *metier*."

Mr. J. A. Richardson.—"There is one question I would like to ask. With a view to the work of the League in the future, it seems to me that it is very important that we should carry the smaller distributors in the Home Tea trade with us. I would therefore ask Sir Roper Lethbridge if he can give us any information as to whether that will be done, and whether the League has already got in touch with the Home Tea trade, and whether the Tea trade is prepared to join hands with us in the matter."

Sir Roper Lethbridge.—"Well, Sir, it is a very difficult question to answer. I cannot say I have been in touch with the Home Tea trade. But Mr. Roberts and others have, and from what I heard from them in meetings held at London, it seems to me that there is a considerable division in the distributing Tea trade at Home. That is accounted for by a very simple reason—I do not think it reflects improperly, certainly not dishonourably, on anybody—that a very high duty secures the monopoly of the distributing trade for rich capitalists in London. I need not mention names: it would be invidious to do so. The smaller men have not the means to take out of bond tea at a very high duty, whereas if there were a low duty, or none, there would be a larger number of the distributing trade prepared to take tea out of bond. There would be a great increase in the *personnel* of the wholesale Tea trade in London if the duty were abolished or reduced. It is only natural that the great distributors who take tea out of bond are inclined to wish for the maintenance of a high duty. It is understood that some of the leaders of this section of the trade had interviews with Mr. Asquith before the Budget of 1906, and urged many objections to the reduction in the Tea duty, what a loss it would be to the revenue and so on, and it is said that Mr. Asquith jumped at the idea. Mr. Cope and the Executive Council of the League took the opportunity of inducing a Member of Parliament on our side to go to Mr. Asquith to represent the view of the Planters that a reduction was needed. That is exactly how it stands with regard to the Tea industry at Home. I do not think, from what Mr. Cope and Mr. Roberts have told me, that the bulk of the Tea distributors are in favour of the maintenance of a high duty. It is only the leviathans that are of that opinion. Mr. Cope knows most of the gentlemen personally, and that is one of the reasons why it would be foolish as well as unjust to lose the services of Mr. Cope. It is, I think, largely through him that the League is in touch with the Tea trade. On the whole, I may answer to Mr. Richardson's question, that it is very difficult to say how far that has affected your interests, for in the Home Tea trade there is no unanimous opinion, and some part of the Tea trade wish for the maintenance of the high duty while others wish for a reduction."

Mr. Romilly.—"I should like to preface my remarks by saying that we should be grateful to Sir Roper Lethbridge and to the League, for their work has been excellent. The crux of the whole question is that Members of Parliament who give their promises do not keep them when it is necessary. Is there any guarantee that we shall not have the same thing over again? That is the only way I look at it. The same promises may be made, excellent work may be done, and no results obtained, simply because men will not keep their promises."

Sir Roper Lethbridge.—"As an old Member of Parliament, I know quite well how very difficult it is for a Conservative or Liberal to break away from

the Whips of his Party. Mr. Romilly is right, it is impossible to rely on the pledges of Members of Parliament, no matter whether they be Liberals or Conservatives. But as an old Parliamentary hand, I am strongly of opinion that the existence of an organisation (like the League) acts powerfully on the voters, and is always, whatever be the value of the pledges, useful because it brings to the minds of the electors, therefore to the minds of the Members of Parliament, and therefore to the minds of the Government and the Chancellor of the Exchequer, what is the popular feeling on such a question as the Tea duty, which appeals most strongly to the working classes of the population and the electorate.

"Of the gentlemen I have named, Mr. Roberts and Mr. Cope have been continuous in their exertions to marshal on our side the lower ranks as well as the great buyers of Tea in London."

Mr. Hamilton.—"I think Mr. Richardson's point is, that we must regard the big men as against us. Will the League endeavour to organise the lower ranks of the trade and counteract the influence of the big men?"

Sir Roper Lethbridge.—"It is a question that should be referred to the Executive Committee. Mr. Cope carries on continually, week by week, a large correspondence in the Press, and especially in *The Grocer*, which is I believe, the organ of the grocers, with this object in view. So, though I have no authority to make a definite statement on the point referred to, still I am absolutely certain that the Executive Council will not only adopt any suggestions of the kind that you may make, but that they have already been doing all they can to marshal these forces on our side."

Mr. Hamilton.—"You can only give your opinion as to their intentions? You cannot pledge them to that course of action?"

Sir Roper Lethbridge.—"Yes, I think I might venture to do so, for I know the views of the Secretary."

Mr. Romilly.—"With regard to my question, I understand from your answer that you think that to keep up the organisation more than compensates for the defect that we cannot get Members of Parliament to keep their pledges."

Sir Roper Lethbridge.—"I think the effect upon the Government and the Chancellor of the Exchequer is certain to be considerable, even though we could not rely on the pledges of Ministerial members, whichever party may be in power."

Mr. Richardson.—"Is it possible at this late hour to do anything in regard to the coming Budget?"

Sir Roper Lethbridge.—"Up to the very last, up to that fateful day in March, there is always a possibility of influencing the mind of the Chancellor of the Exchequer and I have no doubt that the Chancellor will up to the very end keep his mind open. There is time to do something, and if the Council of the League know that they are going to be supported, and that subscriptions will be coming in, they will carry on the work for the present, tentatively; but it is not possible to do so without funds. The details of the funds are entirely with the Executive Council. Nine-tenths of the funds have been cut off by the resolution of the Government in regard to the Tea Cess Funds. This has crippled the League very much indeed. I do not wonder at any Government doing it in these days of hard fighting over political matters. Formerly, the Imperial Government, as well as the Government of India and Ceylon, all practically consented to the use of the Cess Funds in that way, and therefore the responsibility lies with those Governments, and not with the Anti-Tea-Duty League or with Planters."

Mr. Richardson.—"Has the Indian Cess Fund been ordered not to be so used?"

Sir Roper Lethbridge.—"I do not speak with the slightest authority. I do not know. What has been suggested is this, that the Government has probably resolved that no subscriptions may be given from the Cess Fund to the League for its propaganda."

Mr. Hamilton.—"Can you give us an idea what funds the League requires, and how much it is getting?"

Sir Roper Lethbridge.—"I have understood that £100 has been given to them by the Indian Tea Committee in London and some voluntary contributions were also made by local Indian and Ceylon Associations. But you may take it that the funds are at present somewhat in low water, quite low water, I may say, because of the stoppage of the magnificent contribution from the Cess Funds, which was their mainstay and backbone."

Mr. Richardson.—"I shall be glad to know whether Sir Roper Lethbridge is able to give us any of the views of the North Indian Associations?"

Sir Roper Lethbridge.—"I have had as yet no communication from the North of India. The League correspondence goes, I believe, through the Indian Tea Association. It keeps in touch with India through that Association in London."

Mr. Hamilton.—"I do not understand what constitutes the League. Who elects the executive, and what does the body of the League consist of?"

Mr. Roper Lethbridge.—"I imagine that Mr. Compton went round to everybody that he knew was in an influential position in the Tea trade, inviting them to join the League, and out of the men that joined on that footing they themselves elected an Executive Council. That is, I presume, how it has been done. And the Council elected Sir West Ridgeway as the President and also the Vice-Presidents."

Mr. Hamilton.—"It seems to me that the electorate is somewhat nebulous. Will it command sufficient confidence in the North Indian Planting community, whose decision will be practically final, to induce them to subscribe? The whole matter must come to a question of money. In this matter Planters will want to know in whom they are placing their faith."

Sir Roper Lethbridge.—"Quite so, I agree with Mr. Hamilton's question or suggestion. But I do not see how you can form an electorate. It is easy enough where you have District Associations. But where you have a body of people like Tea Companies and buyers and distributors and wholesale and retail dealers how are you to get an electoral college?"

Mr. Abbott.—"Our support is a mere trifle compared to that of the Northern Indian Associations."

Mr. Richardson.—"I think, gentlemen, we are extremely indebted to Sir Roper Lethbridge for coming to-day and meeting us on this subject. It is very good of him to take all the trouble he is taking, and we are all very much indebted to the League for what it has done in the past. I should like to propose the following Resolution, on the lines of one which was passed by my Association a few days ago:—

"That, in view of the possible enhancement of the British Import Duty on Tea, this Meeting strongly recommends that immediate financial support be given by all Companies, Proprietors, and Superintendents to the Anti-Tea-Duty League, with a minimum donation of Rs.5 from all Managers and Superintendents, as in the possible event of a General Election the Anti-Tea-Duty League is the only organisation in a position to conduct a campaign on behalf of Tea."

The Hon'ble Mr. C. E. Abbott seconded this Resolution, which was carried unanimously.

The Ceylon and Indian Import Duties on Tea.

Mr. Hamilton.—"The next subject is the Ceylon Tea Duty. I take it from you, Sir Roper Lethbridge, that the President of the Anti-Tea-Duty League disappears, though our friend Sir Roper Lethbridge remains to give us the benefit of his advice?"

Sir Roper Lethbridge.—"Yes, the truth is that the Anti-Tea-Duty League has absolutely no connection with partisan politics whatever, and the question of the Ceylon and Indian Import duties might be regarded as infringing that rule. In respectfully submitting a few remarks on the question of the

Ceylon and Indian import duties, I must premise that I do so, not in any connection whatever with the Anti-Tea-Duty League, but simply as a humble individual warmly interested in the Tea Industry, and an old Indian officer who, for more than 20 years, was the owner of a considerable Tea property in Ceylon.

"The first point I wish to submit to you is one on which I dilated at some length nearly two months ago in Ceylon, and my arguments used there have been put before you in *The Planters' Chronicle*. My first point is, the gross injustice and absurdity of existing fiscal arrangements in the three States of the British Empire: India, Ceylon, and Natal, which produce Tea :—

"(a) In India, you are only allowed a merely nominal import duty of 5 per cent. *ad valorem*, and the importer can declare the value at any figure he likes.

"(b) In Ceylon, there is a substantial duty of 25 cents (say 4 annas) a lb.

"(c) In Natal, there is a similar substantial duty of 4*d.* a lb. throughout the South African Customs Union, a duty that effectually secures for Natal such a preference throughout South Africa as to secure that market for the produce of Natal. If, as I believe is likely, the other colonies join South Africa in a general Colonial Customs' Union, if Australia, New Zealand, Canada join South Africa in the Customs Union, giving a preference of 4*d.* a lb. to Natal Tea, such a preference in such a big and expanding market will be overpowering. It has been suggested with regard to this preference, which has been, I believe, sanctioned by the present Home Government, that it is not an important matter, because in Natal the Tea Industry is only a nascent one, and it has a good many other disadvantages which you have not in India and which they have not in Ceylon. But if Natal were to get throughout the whole of Greater Britain a preference of 4*d.*, it would be a very serious matter for the Tea Industries of India and Ceylon. Anyhow, it is perfectly obvious that India is cruelly handicapped by the fiscal arrangements I have mentioned, as compared with Ceylon and Natal.

"The question next arises, what is the use, if any, of an import duty in Ceylon or India? The duty is clearly not in either case a Protective one—for Tea is not imported for local consumption in either case, and consequently does not appreciably affect the price of the local product. We all know that the imported Tea is wanted for blending purposes, and the blended product is exported to Europe and elsewhere as Ceylon or as Indian Tea, respectively.

"Now, I do not pretend for one moment to speak as an expert—and I know I am speaking to those who are experts, so I speak with due diffidence.

"Blending is, I am aware, a perfectly honest and even necessary process in the art of producing good marketable Tea. But it seems to me a mere matter of common-sense that blending may quite easily degenerate into adulteration and that adulteration might quite easily degrade, and ultimately ruin, the high character of the Teas of India and Ceylon by which your industry has been built up.

"Now, we know that in America and elsewhere every year Tea from Chinese and other non-British sources is refused admittance on the ground of its being 'exhausted' or 'unfit for human consumption.' It is understood that the exhausted Tea consists largely of the used tea-leaves collected from tea-houses in China, dried and re-manufactured for the use of 'foreign devils'; and such is the extent of the consumption of Tea in China, that this by-product, tea leaves already once infused and re-manufactured, can be sold in Colombo or Calcutta for 1*d.* or 1½*d.* a lb.

"What machinery have you, or are you likely to get, to detect frauds like this? And even if there be no frauds, no 'exhausted' teas or teas unfit for human consumption imported, still for the sake of the reputation of Indian and Ceylon Teas the import of the lowest grades of China Tea on a large scale for blending purposes is to be deprecated. Surely it is a matter of mere common-sense that the only feasible way of keeping them out, or rather of preventing their being profitably used for adulteration, is by imposing such a duty as will render that use unprofitable.

"If that contention be admitted, then I respectfully submit that it is neither wise nor fair for the Indian Planter, grievously as he is handicapped by present arrangements, to demand that the Ceylon Planter should be subjected to the same injustice and hardship. Rather should he demand to be placed on the same level with the Ceylon Planter, by the imposition of a 4-annas duty in Indian ports, with absolute reciprocity between India and Ceylon.

"It has been said, both in Ceylon and in India, that Ceylon is India's most formidable trade-rival, and that India is Ceylon's most formidable trade-rival. But we, in South India, might just as reasonably allege that Assam and Darjeeling are our most formidable trade-rivals. Moreover, to those who have carefully followed the figures of the trade it will be evident that, even if there be anything in these domestic rivalries—I call them domestic, because I strongly feel that the interests of India and Ceylon in Tea matters are one and indivisible—it may not be for long, if we allow them to blind us to more serious rivalry from without. Since the very industrious and ubiquitous propagation of the 'tannin' bogey in England by those who are interested in the China tea trade, the imports of China Teas have gone up, and are undoubtedly going up, by leaps and bounds. Even more rapid and more formidable is the enormous expansion of the production in Java. In those countries, there is free silver, and there are no restrictions on sweated labour. I have mentioned the enormous advantages accruing to the nascent industry of Natal from the frank adoption of Colonial Preference. They have adopted it, and they mean to have it; and I have no doubt whatever that, unless Fortune should before long include India and Ceylon as well in a system of Imperial Preference, while India and Ceylon are quarrelling over the oyster-shells, the oyster will go to the foreigner, and to those Colonists who may have the advantage of Colonial Preference.

"And the moral of that is, that I would earnestly urge all the members of the Tea Industry in India to unite frankly with those of Ceylon, to obtain from the Imperial Government the permission that has already been accorded to Natal to try the effects, in this one branch of industry, of Imperial reciprocity and preference. The Ceylon men say:—'Do not use your influence to try to ruin the reputation of Ceylon Tea by free imports; rather use it to obtain protection of your own industry as well as ours.' I freely admit that in the suggestion I venture to offer you there is a certain amount of preference, but this small preference has been admitted in the case of Natal, and it might be admitted in India and Ceylon as well."

Mr. Abbott.—"I have very little to say. Sir Roper Lethbridge in his very interesting remarks has exhorted us to be friendly with Ceylon, and not to throw obstacles in the way of their Tea trade. We have always been friendly with Ceylon. We shall be very happy to meet them, but just at present, I am greatly impressed with the remarks in the Ceylon Press, and they are by no means friendly. Let us wait for Ceylon to make the first advance. It is very desirable to be friendly with Ceylon Planters. They might be asked to make the first advance, and they will be met in the most amiable spirit."

Mr. Richardson.—"I must say that I was more than astonished when I went over to Ceylon and met quite informally several of the principal men, the Chairman of the Association, the Planting Member, and others, and found that they had not the slightest objection to meet us in this matter of the duty. In fact, they would be glad if one of our men went over to discuss that matter at their coming Annual Meeting, and they would willingly send a delegate to our next Annual Meeting. That was an informal Meeting, and I have got nothing in the shape of writing in the matter. I might ask Mr. Beachcroft for a demi-official letter on the subject. But at the time I thought it was enough to write to Mr. Hamilton on the matter, stating what had occurred."

Sir Roper Lethbridge.—"Mr. Abbott's remarks have touched the whole question clearly and thoroughly. He very nicely said that you, gentlemen, are quite prepared to meet the Ceylon Planters and to join action with them, if they would make the first advance. I think from what Mr. Richardson has said that they *have* made it, informally, and I venture to suggest that you have now materials for coming to closer quarters in the matter. You have an informal

assurance given to Mr. Richardson in my presence by men absolutely the most influential in Ceylon, the Planting Member, the Chairman and Secretary of the Planters' Association, and the Colonial Secretary, and you could not possibly have a more representative body than these men who met Mr. Richardson and myself at Colombo. I take it that you would follow Mr. Abbott in the matter. The Ceylon Planters generally consider that the Indian Planters have a gross and substantial grievance of their own; but Ceylon Planters themselves have this amount of grievance. It is not so tangible as yours is, but the grievance is that you have gone to them and asked them to take away the defence of their own industry. They said at once: 'We cannot do it.' I am perfectly certain that the Ceylon Planters as a body will never give up their import duty. The reputation of Ceylon Tea has been obtained by quality, its market has been obtained by quality, just as with Indian tea. The quality of Indian Tea ought not to be tampered with, neither that of the Ceylon Tea."

Mr. Hamilton.—"I do not quite understand the fiscal systems of the two countries. Are we in the same position as Ceylon is?"

Sir Roper Lethbridge.—"Practically, you are exactly in the same position as Ceylon Planters to this extent; any duty of that sort, either its imposition, or the remission of it, in Ceylon must be sanctioned by the Colonial Secretary, *i. e.*, by the Home Government. So also in India, the imposition of any duty is of course determined upon or carried at Calcutta, but must be sanctioned by the Secretary of State. So you are both practically in the hands of the Home Government. That is the point I wanted to drive home. The Home Government have consented to preference in the case of Natal. The Colonial Secretary has consented to it. Why should not the Indian Secretary sanction a like preference? The present Secretary of State for India, Lord Morley, is a very reasonable man, and it is possible he may see the justice of your view."

After some discussion, in the course of which Mr. Abbott expressed the surprise that Mr. Richardson's statement of the views of Ceylon men had caused him, and admitted that this altered the whole aspect of the subject under consideration, it was resolved that, if the Planters' Association of Ceylon agreed, arrangements should be made, if possible, for a South India Tea man to attend the Annual Meeting of the Planters' Association of Ceylon, at Kandy, in February, 1909, to ascertain Ceylon views and to prepare the way for negotiations for a friendly settlement of the question at issue. Mr. Romilly was asked to undertake this duty, and stated that he would give a definite reply within a few days.

Sir Roper Lethbridge expressed his wish to attend the Kandy Meeting also, but his fear that he might not be able to do so.

Mr. Hamilton.—"Before closing this portion of the Meeting, I must, on my behalf as well as that of the body we represent, tender our best thanks to Sir Roper Lethbridge for his efforts in the past and present, and may it be in the long future, too. It is hard work he has taken on himself. He has taken great interest in our behalf and our best thanks are due to him."

Sir Roper Lethbridge replied in a few words, and this part of the Conference terminated.

The Arskere-Mangalore Railway Project.

This subject was taken up next, and Sir Roper Lethbridge read the following memorandum:—

1. History of Project.—

- (a) The Project was first overtly mooted by the Mangalore Commercial Community, in addresses to His Excellency Mr. Grant-Duff, in 1883, and to His Excellency Lord Connemara, in 1888. They pointed out that Mangalore was the traditional Port of Mysore, and warmly supported the known wish of His Highness the late Maharajah of Mysore, and of the Planting community of Mysore, for direct Railway communication,

- (b) In the winter of 1891-92, and again in that of 1893-94, the late Sir Sheshadri Iyar, then Dewan of Mysore invited me (when I was the guest of His late Highness the then Maharajah at the Old Residency in Mysore City, and of Sir H. Prendergast and Colonel Henderson in Bangalore) to discuss with him this project, as an enterprise which the Maharajah and his Government were very anxious to see carried out. I had at that time long been the Chairman of the Mysore Gold Fields Railway Co., afterwards taken over by the State of Mysore—and my colleagues on the Board of that Railway, Sir Charles Tennant, General Beresford, Captain McTaggart, and others, were all more or less interested in the idea of a railway to put Mysore into close and cheap communication with the West Coast.

The late Maharajah and his Dewan both thought that, for the full development of the great resources of the Mysore State, and especially for the sake of the Mining and Planting industries, a direct and quick communication with a Port on the West Coast was absolutely necessary. They intended the line from Arsikere to Hassan to serve ultimately as the link of the communications between the capital of Mysore and the South, with the Southern Mahratta Railway system on the North and East, and Bangalore on the West.

So, knowing that I was about to be the guest of His Excellency Lord Wenlock at Guindy—and rightly believing that the Government of Madras would be as much interested in the project as that of Mysore—Sir Sheshadri Iyar authorised me to formally approach the Madras Government for a full and elaborate survey of the alignment, with definite suggestions for a joint guarantee from the two Governments of Madras and Mysore, with grants of land and other advantages, to a Company to be formed for the purpose.

On my arrival in Madras, Lord Wenlock put me into communication with the head of his P. W. D. Railway Branch, Major Upcott, subsequently Sir Frederick Upcott and Chairman of the Railway Board of India. From that time to the present, Lord Wenlock and Sir Frederick Upcott have retained a friendly interest in the project, and in 1895-96, under notification, Government of India, P. W. D., No. 416, dated October 27th, 1894, a most elaborate and complete survey of the whole alignment was made by a large body of Engineers under Mr. Gilchrist as Engineer-in-Chief, lasting over two seasons, and costing about Rs.2 lakhs. This survey is now available, and will be wasted if the project be shelved. I venture to suggest that this fact alone, from a business point of view, entitles the Arsikere-Mangalore project to a higher place in the Imperial programme than has ever yet been assigned to it.

- (c) From that time to the present, ceaseless urgent representations in favour of the line have been submitted to the two Governments of Madras and Mysore, by (i) the Representative Assembly of Mysore, (ii) the United Planters' Association of Southern India, and (iii) the Commercial Community of Mangalore and South Canara.

II. *Supporters of the Project.*—I have mentioned His Highness the late Maharajah of Mysore, his Dewan, Sir Sheshadri Iyar, His Excellency Lord Wenlock, and Sir Frederick Upcott, as early supporters of the line. But quite recently, the three great popular authorities named above have strenuously urged its claims.

In 1896, the Commercial Community of Mangalore, in October of that year, submitted to Sir Arthur Havelock a closely-reasoned Address, in which they represented, not only that the railway was urgently needed, but also that for reasons given it was bound to be both a commercial success in itself, and also a most powerful stimulus to the material prosperity both of Mysore and of the Western Coast. Its political and strategical advantages were also dwelt on.

Both in the past year, and in 1907, the United Planters' Association have unanimously passed strong Resolutions on the subject. And the Resolution of 1907 ably stated the fresh considerations that have recently made the line more necessary than ever, in the following terms:—

"That, in view of the material increase in the prosperity of the Provinces of Mysore and South Canara, and the great development of commerce and of the mineral resources of Mysore, and the fact that the haulage of these minerals would put an entirely new and favourable complexion on the dividend-yielding capacity of the proposed Arsikere-Mangalore extension, forming as it would the most direct route to the Coast, this Association considers that it is an opportune time to bring to the notice of the Government of India and the Government of Mysore the necessity of the early construction of this most important line."

At the same Meeting Mr. J. G. Crawford publicly thanked the Hon'ble Mr. Williams, then Acting Resident in Mysore and Chief Commissioner of Coorg, for his advocacy of the line.

Again, in the last Meeting (October, 1908) of the Representative Assembly of Mysore, the need for the line was urgently pressed by (i) the South Mysore Native Planters' Association; (ii) the Hassan Municipality; and (iii) the representatives of the Manjarabad Taluk; (iv) the Arsikere Taluk; (v) the Belur Taluk; and (vi) the Nagar Sabha.

And—more important than all—the Railway Board of India itself, in its recent despatch on the re-distribution of Railways in South India, in Section 20, uses these absolutely conclusive words—

"The demands of Mangalore, Coorg, and the Planting Districts, which would be served by a line from the Southern Mahratta Railway at Arsikere, to Mangalore, *will have to be met at no distant date.*"

III. *The Analogy of the Portuguese Line to Marmagao.*—In 1881, the Portuguese Government thought that the interests of their little patch of the western littoral adjacent to Marmagao, so urgently demanded railway communication with the British territory above the Ghats, as to warrant them in offering a guarantee of 5 per cent. on £800,000 and 6 per cent. on £650,000, for the construction of the 51 miles of railway (mainly up the Ghât) between Marmagao and the Portuguese frontier. It is admitted that the result of that liberality has been immensely to increase the prosperity and the importance of Portuguese India, and to make Marmagao (notwithstanding its physical defects, scarcely less than those of Mangalore—which after all, is, perhaps, the best British Port south of Bombay, and will be greatly improved whenever the railway is made) one of the most flourishing parts of India.

That the physical conditions of Marmagao were not so much better than those of Mangalore seems to be clear from the statements, at the Meeting of the United Planters' Association of Southern India in August, 1907, by the representative of the Manganesse industry that Marmagao harbour was "not large enough" for their requirements. The Southern Mahratta Railway Company have done much for the Port of Marmagao—and they would undoubtedly do much for Mangalore if the railway were once opened.

And on the Ghât sections of these lines, the average gradient of 1 in 48 on the Mangalore line is far more favourable than that of 1 in 40 on the line to Marmagao.

It is admitted that the construction of the Marmagao line, rendered possible by the liberality of the Portuguese Government, has attracted to Marmagao through Londa the commerce of an immense Hinterland, all of which must otherwise have gone to Bombay—just as the construction of the Mangalore line will attract, through Hassan and Arsikere, the commerce of an equally large and even richer Hinterland, and all of which must otherwise be dragged over immense distances to Marmagao or Bombay.

And as to the Coast littoral served by the Marmagao Railway, as compared with that to be served by the Mangalore line, it is obvious that the little bit of Portuguese territory does not compare for one moment, either in richness or

importance, with the littoral territories of South Canara and Malabar. In the former case, Marmagao alone is to be considered—in the latter, Mangalore, besides being itself an important Port, is the rich and prosperous mart of a long extent of some of the most fertile grain-growing land in the world, where the rainfall is such as to render failure of crops unknown. Since the completion last year of the Azhikal-Mangalore Railway bringing the whole of the south-western coast of the Peninsula into communication with Mangalore, this initial advantage is enormously increased—and it is obvious that these two lines from Mangalore, to Arsikere and the East and to Cannanore and the South, respectively, will mutually enrich each other to an extent impossible to Marmagao.

I may mention that I have been a considerable shareholder in the Marmagao line almost from its inception, and still hold its stock to the extent of Rs.30,000, so that I have watched its progress—and this I can say from personal knowledge that, so good are the prospects of the line, that, though the Portuguese Government can take it over at any time after six months' notice with payment of a bonus of 10 per cent., the price of that Stock has been, within the last three years, quoted as high as 113.

It has been objected to this argument, that the Marmagao line did not pay its expenses, apart from the Portuguese Government guarantee, during the initial years from its opening in 1888, until it was taken up by the Southern Mahratta Railway Company in 1902. This may well be—and the Mangalore line would do no better, if like the then Marmagao line, it were a line starting from the Port and ending in the Western Ghats! The Marmagao line, of course, required to be linked up with its Hinterland, and now that is done, it could doubtless pay handsome dividends altogether apart from the Portuguese guarantee. But the Mangalore line will start with an even finer Hinterland from its very opening, and with an immensely richer littoral.

IV. *Present Monopoly of West Coast Traffic by a Port within Foreign Territory, with the Inconveniences of Foreign Custom Houses.*—I submit that the fact, that present arrangements give to the Portuguese Port of Marmagao the monopoly of the vast sea-borne traffic of the Deccan, *i. e.*, carried outward and inward by the Southern Mahratta Company, is one deserving the serious consideration both of the Imperial Government, the Madras and Mysore Governments, and of the General British public. It is doubtless true that the praiseworthy enterprise and ingenuity of the Southern Mahratta Company have reduced to a minimum the obvious difficulties and inconveniences attending the location of their great ocean-port within the territories of a Foreign Power and surrounded by the cordon of that Foreign Power's custom-houses. But these arrangements must, in the very nature of things, depend on the goodwill of a Foreign Government. The Delagoa Bay question has illustrated the difficulties that may arise out of such a position. It is incredible that the Government of India should not be alive to the importance of this consideration.

V. *A Famine Insurance for the State of Mysore.*—I should have thought it would have been unnecessary, at this time of day, to emphasise the obvious value of the Mangalore Railway as a Famine Insurance for Mysore, which has been dwelt upon by every one interested in the matter. But I am informed that it is now contended, by those who are opposed to the line, that Mysore is so happily conditioned by nature, that it is practically immune from famine, and needs no precautions against famine, or none except those which the Madras and Southern Mahratta Railway can already bring from Marmagao or Madras. But surely, the awful memories of 1877 are alone sufficient to invalidate this contention. And it cannot be denied that the contention is opposed to practically every recorded opinion in Mysore itself from the time of the great famine of 1877 to the present day.

Now with the Mangalore Railway open, the whole of Mysore is at once practically in immediate proximity to the rich grain-bearing territories of South Canara and Malabar, where the rainfall is such that failure of the crops is unknown—for the freight of the grain supplies would be almost nominal, the time taken in transit would be measured by hours, and the supply would

always be abundant and certain. On the other hand, without the railway, and in present circumstances, these supplies might as well be a thousand miles away, and the cost of transport in time of famine would be almost prohibitive.

For the Government Survey report shows that the freight of two tons by the Railway (one ton up and one ton down) would be Rs.7-8-0; while the cost of cartage, which the Planters and others now have to pay, for the ton up and the ton down, amounts to about Rs.45, even at the best of times! Surely, it is obvious that, in famine time, this difference in the cost of carriage of grain—between Rs.7-8-0 by railway, and Rs 45 by cart—would make all the difference in the world.

But more than this—the freight by railway of Rs.3-12-0 per ton for grain carried up the ghat would be a constant charge, whether there were a similar load available for the down journey or not—whereas the cartage, Rs.45, for the one ton up and the one ton down, might possibly, in time of famine, be all thrown on the one ton carried up. And moreover the mortality among cattle and the difficulty of providing fodder in time of famine will always cause cartage to rise immensely at such times.

VI. *The Commercial Value of the Line, and its Dividend-earning Probabilities.*—For the value of the line for stimulating the commerce of Mysore and the other territories it will serve, a mere glance at the map, with reference to the present condition of those territories and their future possibilities is sufficient.

And as to the dividend-earning possibilities of such a line the same remark applies. Those who oppose the line take the actual volume of the traffic up and down the Ghat in the existing circumstances of almost prohibitive cost and difficulty—and even this can only be guessed at by reference to the exports of coffee and the statistics of cooly-labour—and point out that if no more than this struggling and almost strangled traffic were carried by the railway, it would only pay small dividends, estimated at from 1 per cent. to 4½ per cent.

But all the local authorities, commercial men in Mangalore and Planters and others in Mysore, deride this absurd mode of calculation—for the moment the easy, cheap, and convenient method of transit is provided, not only will immense new streams of traffic be attracted, but even the present traffic will multiply itself—e.g., where a Planter now brings up one ton of manure, he will then be able to bring up several and yet save money over it.

Of course it is something to have this initial certain traffic—of the coolies up and down, of the coffee down, and the manure and stores of all kinds up and down—for this particular industry. But of the whole traffic of the line, between Arsikere and Hassan, and between Hassan and Mangalore, this particular traffic will only be a very small fraction.

VII. *The Dreaded Hostility of the Southern Mahratta Railway Company.*—In nearly all addresses in favour of the Railway, the fear has been expressed that the Southern Mahratta Railway Company will oppose it, on the ground that it would deprive them of the long haulage (for Manganese and similar commodities) of 330 miles from Arsikere to Marmagao, and only give them in return the short haulage of 137 miles from Arsikere to Mangalore. Of course, if this were really so serious a loss as it might seem at first sight, the Madras and Southern Mahratta Railway Company could hardly be expected to aid the new line. But I believe there would be no such loss—for though the gross receipt for the longer haulage would be greater, it is probable that the net profits on the short haulage would be greater than those on the longer haulage to Marmagao.

And it must not be forgotten that the new line to Mangalore would round off the territory served by the Madras and Southern Mahratta Company, and form a most important extension of its influence.

A glance at the schedule of rates now charged by the Company for the freight of Manganese ore confirms what I have said about the more profitable character of the shorter haulage from Arsikere to Mangalore. Those rates now are for distances from 100 miles to 150 miles, 1/5 pie per maund per mile,

and for distances from 300 miles to 400 miles, 1/9 pie per maund per mile. This would work out at a charge of Rs.6-4-0 per ton to Marmagao, 330 miles; and Rs. 4-2-6 per ton to Mangalore, 137 miles. And it is obvious not only that the profit per mile on the shorter haulage would be larger than that on the longer haulage, but also that the aggregate profit would be larger, as there is such a vast difference in the rates.

And in passing, it may be noted that this difference between the rates of carriage for Manganese ore would, in itself, be sufficient to render profitable the working of some Manganese mines that are now closed down by reason of this burden.

VIII. *The Construction of the Line*—It has been suggested that if the terms of the concession from the Governments of India and Mysore comprised a substantial guarantee, with grant of land, and the various advantages suggested by Sir Sheshadri Iyar in 1892—and if the Madras and Southern Mahratta Railway were willing to undertake the working of the line on liberal terms (which would be probably more convenient than to treat the line as an extension of the Azhikal-Mangalore section of the Madras system)—then it might not be impossible to form a Company for the construction, on the modern lines, with rupee capital and local head-quarters and direction. I imagine that no other industrial enterprise would be so likely to attract local support, and the experiment might well be made. It would of course be necessary, in order that the rupee capital might be likely to yield such a return as to be locally attractive, that there should be a considerable Debenture capital, and I have no doubt whatever that in the circumstances and on the conditions I have named, I should be able easily to obtain as much as might be needed in England and I shall be prepared in that case myself to subscribe a substantial portion of the Debenture capital for myself and my friends.

The Government of India, through their representatives in the Imperial Parliament, have stated that, in their new Railway policy, they are by no means desirous of discouraging private enterprise, in the work of railway construction and the development of the country. Private enterprise obviously most needs encouragement and the ultimate results to the State are obviously most valuable—when the work of construction is costly (as in the case of the Portuguese-Guaranteed Railway to Marmagao), and when the vast bulk of the traffic (as in the case of that railway) can only be obtained when the Ghât railway is linked up with the great railway systems above the Ghâts.

And how can private enterprise be encouraged? Surely not by barren expressions in regard to future intentions and hopes. The Government has, by direct and tangible advantages—the concession of guarantees, the grant of lands, and so forth—enabled great Companies in Southern India, like the Madras, the South Indian, and the Southern Mahratta, to build up properties now paying handsomely, in the benefits of which the State now obtains a valuable share. It may now, by the concession of similar or even smaller advantages, enable other private Companies to build up similar properties for the future, also for the future benefit of the State and the public.

The Meeting adjourned at this point. After luncheon, the Vice-Chairman of the U. P. A. S. I., Mr. J. A. Richardson, took the Chair, in lieu of Mr. Hamilton, the latter stating that the keen personal interest he had in the subject caused him to desire to see the Chair occupied by some one who was not in a similar position.

After a careful discussion, it was resolved that the preparation of a Memorial on behalf of the U. P. A. S. I. pressing the above Railway project again on the attention of Government be left to the Chairman and the Secretary of the Association. There was complete accord as to the importance of the project and the necessity for its early adoption.

Sir Roper Lethbridge was cordially thanked for his able advocacy of the project, and the Chairman declared the Meeting closed.

DISTRICT PLANTERS' ASSOCIATION.

North Mysore Planters' Association.

Quarterly General Meeting held at Balehonnur on the 7th December, 1908.

Present:—MESSRS. C. H. BROWNE (*President*), C. S. CRAWFORD, R. G. FOSTER, C. DANVERS, F. W. HIGHT, H. M. NORTHEY, L. P. KENT, H. G. BONNER, F. J. PARTON, C. H. TREVOR-ROPER, C. P. REED (*Honorary Secretary*).

Represented by Proxy.—W. P. ALLARDICE, G. B. KIRWAN, R. W. FREMLIN, A. DURHAM, H. PILKINGTON, A. F. EVETTS, W. H. F. LINCOLN, O. SCOT-SKIRVING, J. R. ERRINGTON, E. N. LESLIE, E. LUND, S. L. MATHIAS, T. S. GILLATT.

Dassera Delegate.—READ report of the delegate to the Representative Assembly.

A vote of thanks was accorded to Mr. Pilkington, for kindly representing this Association at the Dassera.

Labour Act I of 1903.—After the subject had been thoroughly discussed, the following Resolution was proposed by Mr. H. M. Northey and seconded by Mr. H. G. Bonner:—"That in view of the fact that Act I of 1903 has not given satisfaction in the Districts into which it had been introduced, and that the Wynaad has asked for its withdrawal from that District, this Association is not prepared to consider the question of its introduction into Mysore in its present form and that a copy of this Resolution be sent to the South Mysore Planters' Association and North Mysore Native Planters' Associations."

The Resolution was put to the Meeting and *carried unanimously*.

Extradition.—*Resolved* that this Association do address the South Mysore Planters' Association and North Mysore Planters' Association, with the object of securing their co-operation in presenting a Memorial to the Government of Mysore requesting it to approach the Imperial Government on the subject of obtaining extradition for offences committed under Act XIII of 1859.

Shooting of Antelope.—*Resolved* that Government be asked to permit sportsmen to shoot annually two black bucks under each District license and five under a Provincial license, the maximum number of bucks to be shot by any single individual in one year not to exceed five in the whole Province.

The Present Situation.—*Resolved* that this Association convey to the Behar Planters' Association, through the medium of the U. P. A. S. I., its approval and appreciation of the sentiments expressed in their open letter to the Secretary of State for India regarding the present situation in India.

Roads and Communications.—*Resolved* (1) that this Association records its appreciation of the excellent work done on the roads and the improvement in their condition which has taken place during the period Mr. R. S. Navaratna has been Executive Engineer in charge of the Kadur District; it learns with regret that he has been transferred.

Resolved (2) that this Association learns with regret that Government has placed a Toll-gate on the Yedahalli Oomliebile road; this Association considers the levying of Toll upon roads in Mysore which have hitherto been free, a retrograde step. In this case it is likely to interfere with the free movement of grain to the Planting Districts, and this Association trusts that Government will see its way to remove the gate.

Koppa Taluq Amildar.—*Resolved* that this Association regrets that Government has not yet appointed a permanent Amildar with 2nd class Magisterial powers to the Koppa Taluq. That during the past 12 months changes have been incessant; for several months past the Yedahalli Deputy Amildar has been officiating, but has not the power to try cases under Act XIII of 1859.

Expenses of Dassera Delegate.—*Resolved* that in future a sum of Rs. 100 be paid towards the travelling expenses of the Delegate to the Dassera Representative Assembly.

C. P. REED, *Honorary Secretary*.

The Anamallai Planters' Association.

Proceedings of the Quarterly General Meeting held at the Valparai Bungalow on January 1st, 1909.

Present.—MESSRS. G. L. DUNCAN, G. A. MARSH, C. H. BROCK, E. W. SIMCOCK, J. S. B. WALLACE, H. W. DE. SALIS, R. F. LUSHINGTON, F. C. F. LUSHINGTON, and C. R. T. CONGREVE (*Honorary Secretary*).

Mr. Marsh was voted to the Chair.

The Proceedings of the last Meeting were read and confirmed after previous circulation.

Labour.—Mr. Simcock laid before the Meeting the literal translation of a Tamil circular addressed to one of his maistries, by name Thaivarai Maistry, which read as follows :—

“ NOTICE.

“ WANTED!

WANTED!!

WANTED!!!

“ Coolies are wanted through Maistries.

“ ~~Read~~ Read this carefully :—

“ VYTHERY EAST INDIAN TEA AND PRODUCE COMPANY (LIMITED).

“ *Notice to Maistries and Coolies who are desirous to go and work
on Tea Estates.*

“(1) The Estates are at a distance of about 40 miles from Calicut. They are healthy, work easy, good wages and income. Grains cheap, maistries and coolies can travel easily and see their relations often as these estates are close and need no travel by sea.

“(2) Maistries and coolies get free quarters and are treated kindly and with care.

“(3) Maistries and coolies are not forced to work longer than the agreed period.

“(4) The day's wages for men from 4 to 5 annas; women, 3 annas; children, from 2 to 3 annas. For extra work paid extra according to the work. A family of husband, wife and 2 children can earn a day from 12 annas to 20 annas easily; work being easy, each good workman can finish his task and can work and earn as much.

“(5) Each maistry can bring any number of coolies, but not less than 10.

“(6) Each cooly thus brought would be advanced Rs.7 ahead.

“(7) Maistries before receiving the advance have to make and sign an agreement stating the number of coolies and the period that they would work under him.

“(8) The maistries with coolies are paid extra for looking after their coolies' work and 10 per cent. commission given as a present by the Company. Maistries with more coolies benefit more.

“(9) When the price of grains get dear, the Company will purchase on their own account and issue cheap to maistries and coolies.

“(10) If maistries or coolies were to get fever by chance the Company will keep such fever coolies in the hospital and see them attended by a clever doctor, treat them kindly and feed them freely on the Company's account till they get better.

“(11) If the coolies are taken to the Estate as agreed at the appointed time, the rail fare, etc., would be paid to them free on the Company's account.

"(12) The maistries who are desirous to bring coolies can get further particulars from our Chief Agent, M. R. Ry. R. Raju Pillai, residing at Kul Eddayam Street, Coimbatore, or from other Sub-Agents.

"(Signed) H. WADDINGTON,

"LABOUR COMMISSIONER,

"*East Indian Tea and Produce Company (Limited).*

"P. S.—*Estate Names.*—Kooddackavi, Aranayalam, Sundai, Puttoomalay Westworth, Thavaranmalay, Sairampady, Perungkody."

This was enclosed with the following covering letter:—

"To

"Thaivarai Maistry,

"Stanmore Estate, Valparai P. O.,

"Poonachy Hills, Poolachy Taluq,

"Coimbatore District.

"As you had spoken on the Poolachy road, notice is sent to you. When you come down, you can see the Chief Agent, M. R. Ry. R. Raju Pillai, residing at Kul Eddayam Street, Coimbatore, or Sub-agent Ramasawmy Naidu, and know from them all particulars, write an agreement and get the advance.

"(Signed) V. RAMASAWMY NAIDU."

Mr. Congreve then said:—"It will be remembered by all that our delegate to the last U. P. A. S. I. Meeting had certain letters given to him by various members of this Association pointing out complaints from maistries and coolies of attempts to entice them to Wynaad on the part of a recruiter of the East Indian Tea and Produce Company (Limited). These letters were ruled out of order, but notwithstanding this, at a Meeting of the Wynaad Planters' Association held at the Meppadi Club, on September 16th, the Honorary Secretary in his report re-opened the matter, and said that not a single cooly was obtained who had previously been in the Anamallais. He went on to say that this only showed the danger there was in accepting any reports from Maistries. It would be of great interest to know how the Honorary Secretary arrived at his conclusion that none of the coolies obtained by recruiters of the East Indian Tea and Produce Company (Limited), had previously been on these hills. Surely he would not have us to understand that he knows the life-history of every cooly obtained by his recruiters. The only inference it appears possible to draw is that this must be the case, otherwise I fail to see how he can possibly know that none of these coolies have ever worked up here, except from information received from his Maistries, the very thing he condemns in his report. However I think I am right in saying we had agreed to let this matter rest in the hope that some good had been done, and that in future more discretion would be exercised by labour recruiters.

"In face of the circular and letter just read out by Mr. Simcock this is evidently far from being the case.

"Gentlemen, I had always understood that there was a certain etiquette amongst Planters.

"The Wynaad Association were themselves amongst the first to cry out about the way coolies were being induced to break their contracts and to go to Ceylon and elsewhere, yet their Honorary Secretary and Delegate to the U. P. A. S. I. Meeting apparently sees nothing wrong in having printed circulars sent to Maistries on estates in surrounding Districts, and further his Sub-agents appear to see no harm in treating with our advanced labour in the low country with the intention of trying to entice them to leave us.

"Labour difficulties are already had enough, but if more control is not to be exercised by European recruiters over their Sub-agents, it is difficult to see where it will all end. I therefore propose the following Resolution:—

"That the Honorary Secretary be asked to write to the Managing Director of the East Indian Tea and Produce Co., Ltd., protesting against the sending or

circulars similar to the one under discussion to Maistries and coolies already under contract with other Planters; and that the Secretary of the U. P. A. S. I. be requested to lay the matter before District Associations, with a view to ascertaining whether some general arrangement cannot be arrived at to prevent inter-District labour troubles." This was seconded by Mr. Brock and, after considerable discussion, *carried unanimously*.

Coffee Thefts.—The Honorary Secretary read letters from the District Superintendent of Police on this subject, and it was unanimously agreed that all care should be taken to help the Police in every way possible, and members undertook to instruct their Forwarding Agents to see that each consignment of coffee be stored only in one place.

Medical.—Mr. Simcock proposed, and Mr. Duncan seconded: "That the Government be approached asking that a Medical Officer be appointed to this District. It was pointed out that the present population, which is steadily increasing, amounts to some 4,000 souls.—*Carried unanimously*."

Imperial Preference.—READ Circular No. 45/1908: "This Association views with satisfaction the Hon'ble Mr. M. de P. Webb's endeavours to promote Imperial Preference."

U. P. A. S. I.—READ Circular No. 54/1908: "The Meeting expressed its regret that the communication from the General Secretary of the Behar Planters' Association had not been received in time for them to support the 'open letter' to the Secretary of State, and were unanimous in expressing sympathy with and approval of their action."

Papers laid on the Table.—U. P. A. S. I. Circulars.

Wynaad Planters' Association's Proposals *re*
Factory Sweepings.

Copies of Correspondence
with D. F. O., D. S. P., etc.

A vote of thanks to the Chair terminated the Proceedings.

(Signed) G. A. MARSH,

Chairman.

(Signed) C. R. T. CONGREVE,

Honorary Secretary.

Wynaad Planters' Association.

*Proceedings of Annual General Meeting on the 13th January,
1909, at Meppadi Club.*

Present.—Messrs. H. ATZENWILER, C. F. EWART, D. MACKENZIE, W. R. MCKENZIE, W. MACKINLAY, B. MALCOLM, S. H. POWELL, A. TROLLOPE, A. WEST, and C. E. ABBOTT (*Honorary Secretary*).

In the Chair.—Mr. A. Trollope.

1432. *Election of New Members.*—Messrs. J. W. Bisset, J. Elphinston and W. Parry were elected.

1433. *Annual Report and Statement of Accounts.*—The Honorary Secretary read the following Report:—

In submitting the Annual Report, I can only wish that it had been written and read to you by our late Honorary Secretary, Mr. Waddington, who has so ably represented our interests during the past two years and whose departure from the District we all so much regret.

As I have only been in charge for a few days, I have to ask your indulgence for any shortcomings in the review of the year's work. Ten General Meetings

have been held during 1908 and have been well attended. Four Members have resigned, having left the District, and we have lost one by death. Twelve new Members have been elected. There are now 40 Members on the roll.

The accounts are placed on the table for examination, and if found correct you are asked to pass them.

The business of the Association has been for the most part confined to matters of local interest. With the New Year the revised system of subscription comes into force as agreed to at our July Meeting.

Tea Passes.—Mr. McCarrison, the Superintendent of Police, North Malabar, and the Superintendent of Police in South Malabar have co-operated with us in establishing a system of Tea Passes. These have been now in use for 6 months by all factories sending tea along Malabar roads, and our thanks are due to those officers. I believe that the beneficial effects of this innovation are already observable.

Pepper Vine Disease is still causing considerable loss in the District. We have asked through the U. P. A. S. I. that Dr. Butler, Cryptogamist to the Government of India, should be deputed to visit Wynaad. But we have as yet had no reply.

Rail Freights on Tea.—The Association took this subject up at the instance of Mr. Nicolls, and, with the assistance of Messrs. Parry & Co., has obtained a substantial reduction on through rates to Madras. This should help us greatly to sell tea in the markets of Southern India; and may enable the shippers to get their tea on the London market when a prolonged burst of the monsoon closes the West Coast ports.

Money Order Commission.—Your Delegate at Bangalore again brought forward this subject and we have since received our annual refusal to reduce the rates from the Postmaster-General of India. Mr. Waddington, however, was able to point out that the Company for which he was working was now getting up money by Police escort at a third of the cost of Money Orders (As.5 Pies 4 instead of Re.1 per cent.) and that the Post Office has thereby lost Rs.3,000 a year in commission. This sum may be an inconsiderable trifle to the Indian Post Office; but occurring, as it does, in a single Taluk ought to convince the Department that there is some reason in our reiterated complaints.

I was glad to see that the *Madras Mail* recently called attention to the fact that the Registrar of Friendly Societies in Burmah writes in his Annual Report of the prohibitive rates of Money Order Commission.

Liquor Shops in the Vicinity of Estates.—The Association has complained of two liquor shops during the year, and I am glad to say has obtained redress. The circumstances have been fully reported, and I need only say now that one of these shops has been moved away from the Estate, and the other is to be closed on March 31st. I have been assured that any complaints we may make to the Abkari authorities of liquor shops being established in objectionable sites will receive full consideration. Government only has to see that the legitimate demand for the liquor is met, and that illicit distillation is not encouraged, which is what happens if reasonable facilities for buying liquor are not given.

There is at present only one liquor shop in Wynaad to 1,318 inhabitants which is, I understand, much below the number in other parts of the country, and the price of liquor in Wynaad is higher than elsewhere. But in spite of all discouragements the consumption is largely increasing.

The Vayitri Magistrate.—Complaints were made by several Members of the Association that the Vayitri Magistrate summoned Planters and their Writers and Maistries to attend Court at long distances from their Estates under circumstances that appeared unreasonable.

An enquiry has been held by Mr. Lever, our late Deputy Collector, and his report has gone to the Collector. The Magistrate has now fixed the dates on which he will hold Court at Meppadi and Sultan's Battery.

Several of the complaints were to the effect that people who had taken out warrants had been summoned merely to give evidence as to the whereabouts of defaulters who had not been arrested, which information they had of course already given when applying for the warrant. The Magistrate assured me personally that it was absolutely necessary to demand this information when a warrant has been returned by the Police unserved; but that in the case of Planters or their Writers he invariably first asked for the information by letter, and never issued a summons until the letter had been left unanswered for two or three weeks; also that all he wanted was a post-card saying that no fresh information could be given.

I think it is fair to mention this, and to suggest that Maistries whose warrants are returned should also be addressed by letter through their Estate Managers. In this connection we ought to note the extraordinary number of warrants for breach of contract that are returned unserved by the Police, not only in Wynaad, but in other Planting Districts as well.

Scientific Officer.—Your Delegate to Bangalore reported to you that a Scientific Officer is likely to be shortly appointed to study Agricultural matters of interest to Planters. He is to be under the control of the U. P. A. S. I., which contributes part of his salary.

Anti-Tea-Duty League.—The claims of this society on all Tea Planters have been brought into notice lately, and are fully stated in the current number of the *Planters Chronicle*. I have been in communication with Sir Roper Lethbridge, the President of the League, since he has been in India, and I regret that we have not been able to send a delegate to interview him. There appears to be reason to suppose that an enhanced duty on tea may be a feature of the next Budget, and that the large tea merchants in England are not opposed to it. I have put the subject down for discussion at this Meeting.

Labour Matters.—A great deal of anxiety has arisen during the past year from the belief that our coolies have been induced to repudiate their indebtedness to our Maistries, and go to work in other Districts, especially to Ceylon.

The U. P. A. S. I. has appointed a Committee to enquire into the matter and to suggest if possible some remedy for our difficulties. I wish to keep all controversial matters out of this report, and I will only allude to one of our special difficulties, which I believe all Planters who have had experience of the Madras Planters' Labour Law are agreed about. What I mean is that it is most difficult for our Maistries to get their coolies' contracts attested in their villages. The conditions imposed by this clause of the Act, really presuppose that the coolies are all taken to a central depôt before an Inspector of Emigrants who has nothing else to do except to look after them; a recruiter for Ceylon has merely to take his coolies to the railway and the Madras Government only troubles to see that they don't take the Plague with them. If any of these coolies leave the Estate they are engaged to work for they can be arrested in India and taken back to it. As I have said before, we have been working quite peacefully with Ceylon recruiters for a great many years, and have no quarrel with them now. We need not expect to have our recruiters subsidised by the Indian Government as are the Ceylon agencies by theirs. But we have a right to ask that we shall be allowed to recruit our coolies with no more restrictions than recruiters for countries outside India.

This is the point I endeavoured unsuccessfully to bring to the notice of our Government in the Legislative Council. But the Hon'ble Mr. Forbes had really put our case as clearly as it could be put before I spoke. "Emigration to Ceylon," he said, "is absolutely free, and the general policy of the Government of India for some time past has been that unless for some special reasons emigration to any part of the British Dominions where the emigrants have the protection of the British law should be free, and no bar should be put on it."

If the Government of which Mr. Forbes is a distinguished member will only live up to these admirable sentiments, we shall have less to complain of.

The Report was adopted and ordered to be printed.

The accounts were passed.

1434. *Date of Future Meetings.*—These are to be held on the second Wednesday of each month, except March and April.

1435. *Proceedings of December Meeting, 1908*, were confirmed.

1436. *Vayitri Magistrate.*—READ letters from Collector and Vayitri Magistrate to the effect that sittings will be held every alternate Monday and Tuesday at Meppadi, and that the Magistrate will also fix in advance two consecutive days in each month on which he will camp at Sultan's Battery, giving notice to Planters in that neighbourhood.

The Collector in making this communication expresses a hope that all who have business with the Magistrate will co-operate with him in getting through his work by attending with their witnesses at the hours notified.

The Honorary Secretary was instructed to enquire between what hours on the dates fixed the Magistrate will be in Court.

1437. *Roads*—READ correspondence between Honorary Secretary and President, District Board, regarding road between Sultan's Battery and Noolperja; noted with satisfaction that Rs.1,400 is to be spent on repairs of bridges.

READ also letter from Wynaad Overseer saying that this work will be completed by end of March.

READ letter from Executive Engineer, West Coast Division, dated 14th December, that orders have been issued to re-deck the Padrepoya bridge at once.

Road 38.—READ letters from Mr. Bousfield complaining of the state of this road between Meppadi and Choladi bridge, especially near mile 20.

READ letter from the Wynaad Overseer saying that the metal collection has been completed on this section and spreading is going on, and that the bad portions of mile 20—21 are being renewed.

With reference to a Resolution passed at November Meeting, the Honorary Secretary is to enquire if all allotted funds have been spent on this road.

1438. *Game Bill.*—Resolved that this Association has no objection to offer to the provisions of the Draft Bill.

1439. *Anti-Tea-Duty League.*—READ correspondence. The Honorary Secretary was asked to interview Sir Roper Lethbridge in Madras on behalf of this Association, and to ascertain his plans; also to say that Members interested in Tea are willing to subscribe.

1440. *Behar Planters.*—Recorded the approval of this Association of the Behar Planters' letter to the Secretary of State of India (U. P. A. S. I. Circular 54).

1441. *Taluk Board Member.*—Mr. Malcolm was nominated to succeed Mr. Waddington, who has resigned.

1442. *Sale of Coffee and Pepper Crops by Revenue Authorities.*—Mr. Atzenwiler complained that insufficient notice of these sales is given to enable intending purchasers to be present. The Honorary Secretary was instructed to address the Deputy Collector.

1443. *Ceylon Duty on Tea.*—Read U. P. A. S. I. Circular No. 2 of 1909.

1444. *Papers on the Table.*—Tea Statistics for October; Prizes offered by the Madras Agri-horticultural Society.

A vote of thanks to the Chair.

(Signed) A. TROLLOPE, *Chairman.*

(Signed) C. E. ABBOTT, *Honorary Secretary.*

Mundakayam Rubber Planters' Association.

Minutes of Annual General Meeting held at Kadamankulam Bungalow, at 10 a.m. on Saturday, the 16th January, 1909.

Present:— Messrs. H. D. DEANE, J. J. MURPHY, R. HARLEY, J. D. DEANE, A. HAMMOND, A. E. VERNEDE, F. E. VERNEDE, J. R. VINCENT (by proxy), and J. A. RICHARDSON (*Chairman and Honorary Secretary*).

Chairman and Honorary Secretary's Report:—

GENTLEMEN,

Another year has passed and this District has increased with rapid strides and we are now within measurable distance of testing what our Rubber is going to do for us. During the coming year at least two Estates will have reached the tapping stage and from experiments already made I am sure there need be no doubt about the results.

During the past year our cultivated acreage has been increased by 1,894 acres, making a total of 7,634 acres under Rubber. Prices are considerably better than they were this time last year and show every prospect of remaining firm at present. Tea also promises to become one of our products, and there is a fair amount of pepper planted throughout the District. We would also take this opportunity of congratulating the Dewan on the honour conferred upon him by the King-Emperor in making him a C. I. E., and trust this is only a step to further recognition of his services to the Indian Empire.

In touching on the past year's work of the Association I will only mention briefly the subjects which have been before us during the year. Some of these have been accomplished and others have still to be, but taking the year all through I think we can show some useful work. Taking the items in their order as they came before us during the year, the first is—

The Kanjirapally Bridge.—This led to a great deal of correspondence and a certain amount of friction between this Association and the Executive Engineer, but I am glad to say a new bridge is about to be put up which will meet with all requirements.

Kutikal Road.—This was sanctioned in the early part of the year and is now well on the way to completion.

International Rubber Exhibition.—This was reported on at a recent Meeting, so I need not say much more on this matter. You have all, I trust, got copies of the pamphlet which I think is an interesting and instructive publication. Anyone wanting extra copies can have them at Re.1 each, and I shall be glad to book orders for them. I have had a complaint from one Company that their photos were not included in the pamphlet. All I can say is that when the pamphlet was put in the hands of the Printers they had only some 16 photographs to choose from. Some very fine photographs came in when it was too late, so that it is entirely the fault of the Managers themselves if they were left out.

Scientific Officer.—The necessary funds for this have been promised and the appointment of a suitable man now lies with the Madras Government.

Peermade Travellers' Bungalow and Waiting-room at Kutcherry.—These I am sorry to say are no further forward than they have been for the last 3 years, though we have Government's assurance that they will be done before the close of the present Malabar year.

Facilities for removing Teak.—The Government Order on this has been published in the *Gazette*. The price Government has fixed per candy is, I think, much too high, but otherwise they have tried to meet our views as much as possible.

Second-class Rest-house at Ponkunnam.—This has been refused principally on the ground that the present Court-house at Ponkunnam is only a rented building and there is every probability of the Court being removed to Kanjirappally, in which case we will probably have the D. P. W. Camp Shed there turned into a Rest-house which would give us an equal right to it with anyone else.

Magistrate holding Court at Mundakayam once a month.—This request has been granted and the Peermade Magistrate now visits the District and holds Court at regular intervals.

Liquor Shops.—We have Government's assurance that our complaints on this matter will have their consideration.

Servant at Kottayam Travellers' Bungalow.—Our wishes have been met in this matter and I believe a competent servant is now in charge.

Peermade Jurisdiction Boundary.—This is one of the most important matters that has come before the Association during the year. At the recent interview with the Dewan at which most of you were present. I think it was clear the Dewan was prepared to meet our views in this as far as possible, and his decision on the matter will be awaited with interest.

Motor Traction between Kottayam and Mundakayam.—In regard to this we have Government's promise to put the road bridges in suitable order. In view of the great trouble we have been put to this year on account of the terrible mortality amongst the cattle through rinderpest, this is a matter which is of great importance to both this District and Peermade.

The Renard Road train seems to be commanding a lot of attention in India, and trials are now being made in Coorg, of which I hope to get some particulars through the U. P. A.

Telegraph Receipts.—This matter was brought up at the U. P. A. Meeting, at Bangalore, and the difficulty has to a certain extent been met by the Post Offices supplying receipt forms beforehand on which the sender can enter full particulars and pin it on the telegram before sending it in.

Hospital Accommodation at Mundakayam.—So far we have not been successful in getting anything done in this matter, but I think the Dewan on his recent visit quite realised the necessity of increasing the accommodation, and I have no doubt it will have his favourable consideration. The British Resident also visited the present building and was of opinion that something must be done at once.

Re-building of the Kodumatha Bridge at Kottayam.—As you will remember, at our last Meeting I informed you that I had addressed the Chief Engineer requesting that the new bridge should be raised a few feet to enable large wallums to pass through.

I have heard from Government that the new bridge is only one foot higher, as before the matter was represented to them the new bridge was well on its way to completion.

Labour Rules.—These have been before us for some time and the Labour Committee appointed at last Meeting I expect will have something to report on the matter to-day.

Weights and Measures.—Nothing so far has been done as regards this, I am sorry to say.

Accounts.—The books have been audited by Mr. R. Harley and are now on the Table. We come out with a small debit balance of Rs.68-4-9 on the year's working, and it is for you to decide whether it will be necessary to increase our cess this year or not. I think perhaps with the increased acreage it may not be necessary; at the same time we must remember that our subscription to the Parent Association is considerably higher than in former years.

Details of Expenditure for 1908.—

	RS. A. P.	RS. A. P.
By Balance brought forward from 1907 ..	.....	132 1 9
„ Subscriptions for 1908 @ 10 cents on 7,254 acres ..	.....	725 6 3
To Printing Proceedings, Chronicles, etc. ...	56 15 6	
„ Stationery, Telegrams, Postages, Commission on Cheques, etc. ...	Rs. 99-0-6	
„ Less difference, Yendaar Cheque ...	„ 0-3-3	
	98 13 3	
„ U. P. A. Subscription ...	150 0 0	
„ Part do. for 1908-09 ...	250 0 0	
„ U. P. A. Delegate's Expenses ...	150 0 0	
„ Sri Mullam Delegate's „ ...	100 0 0	
„ Clerk's Salary ...	120 0 0	
By Balance carried forward ...	.....	68 4 9
Total	Rs.925 12 9	925 12 9

Balance Sheet, 31st December, 1908.—

The M. R. P. A. Account ...	68 4 9	
The National Bank of India, L.d. ...	357 1 3	
The Exhibition Fund Account ...	.....	425 6 0
Total	Rs.425 6 0	425 6 0

I thank you, Gentlemen, for the cordial support you have given me as your Chairman and Secretary during the past year, and now beg to lay my resignation before you.

Sri Mullam Delegate's Report.—Mr. Deane reported that he had brought up the two subjects we instructed him on, *viz.*, Peermade Jurisdiction Boundary and Mundakayam Hospital Accommodation. The Dewan promised both matters his careful attention and proposed an early visit to Mundakayam District. As already stated in the Honorary Secretary's Report, the Dewan visited the District and his decision in both matters will be awaited with interest.

A cordial vote of thanks was accorded to Mr. H. Drummond Deane for representing the Association; proposed by Mr. Murphy and seconded by Mr. Harley.

Correspondence.

Motor Transport.—READ Association's letters of 13th October to the British Resident, Chief Engineer and Chief Secretary to Government. READ replies from above all in favour of the enterprise.

Particulars of the Renard Road train also came to hand from the Secretary of the U. P. A. during the Meeting.

Behar Planters' Association Memorial.—The following Resolution backing up the action of the Behar Planters' Association was proposed by Mr. H. D. Deane and seconded by Mr. J. J. Murphy and *carried unanimously*:—"That this Association cordially supports the Memorial circulated by the Behar Planters' Association and endorses their views on dealing with the unrest in India as therein expressed."

Imperial Preferential Duties.—In introducing the subject the Chairman read the United Planters' Association's Circular letter of 16th October from the Hon'ble Mr. M. De P. Webb, regarding Imperial Preference, and after some discussion proposed the following Resolution, which was *carried unanimously*:—"That this Association is strongly in favour of Tariff reform on the basis of Imperial Preferential duties."

Labour.—The circular from the Labour Committee of the United Planters' Association was laid before the Meeting, and it was resolved that this Association did not see that any advantage could be gained by filling up the particulars asked for, and were not prepared to do so.

Rules as proposed by Mr. J. J. Murphy, and seconded by Mr. J. D. Deane, were laid before the Meeting and *carried unanimously*. The Rules were for the working of Tamil Labour and read as follows :—

1. No Kangany or cooly to be taken on from an Estate in this District, except on discharge note.
2. Discharge notes must be signed by the Manager of an Estate or by his European Assistant.
3. The Estate from which a cooly absconds has first claim on him for a period of three months even should he go to his village before working on another Estate.
4. The Estate from which a Kangany absconds has first claim on him for a period of twelve months.
5. In regard to coolies advanced at their villages by the Kanganies or Agents of two Estates.
 - (a) The Estate making the prior advance has first claim on the cooly provided that the second advance is given within three months of the first.
 - (b) When the second advance is given three months after the first, the Estate to which the cooly is brought has first claim on him.
6. The Estate with first claim on a Kangany or cooly having recovered the advance made, the Kangany or cooly must be sent to the Estate having second claim or the debt due to it paid.
7. Disputes under these rules to be settled by the Committee of the Association, who may appoint arbitrators.

The following Resolution was proposed by Mr. H. D. Deane, and seconded by Mr. Murphy, and *carried unanimously* :—

"That this Association do approach the various Travancore Associations with a view to requesting the Travancore Legislative Council to amend the laws regarding Criminal Breach of Contract as constructed by the Ruling of the High Court, 14 T. L. Report, Appendix."

The following Resolution was proposed by Mr. Harley, and seconded by Mr. Hammond :—

"That this Association request the Postmaster-General to authorise the Mundakayam Postmaster to accept Parcels, &c., for insurance."

Finance.—The accounts were laid on the Table and it was decided to fix the Cess on the same basis as before—10 cents. per cultivated acre.

This on the total acreage under cultivation would amount to 7,858 acres roughly, which would mean an income of Rs.785-12-0.

Expenditure estimated.—

	RS.	A.
Stationery, Postages, &c. ...	75	0
Balance of 08/09 and part 09/10, U. P. A. subscription	250	0
U. P. A. Delegate's Expenses ...	150	0
Sri Mullam do. do. ...	100	0
Clerk's Salary ...	120	0
Printing Proceedings, &c. ...	50	0
Total	Rs. 745	0

Election of Office-bearers.—The result of the election was as follows :—

Mr. J. A. Richardson, *Chairman*.

Mr. J. J. Murphy, *Vice-Chairman*.

Mr. C. Madden, *Honorary Secretary*.

Messrs. J. D. Deane, B. Woldie, R. Harley and K. E. Nicoll, *Committee*.

With a vote of thanks to the Chair the Meeting terminated.

J. A. RICHARDSON,
Chairman and Honorary Secretary.

INDIAN TEA ASSOCIATION, CALCUTTA.

Extract from Abstract of the Proceedings of a Meeting of the General Committee held at Calcutta, on 5th January, 1909.

*Correspondence with the Indian Tea Association (London).—*Letters dated 11th and 18th December, from the Indian Tea Association (London), which had been previously circulated, were brought up for final consideration and disposal. The principal subjects dealt with were the following:—

Mr. C. M. Hutchinson.—The Sub-Committee appointed by the London Association to consider the question of the re-engagement of Mr. C. M. Hutchinson as Chief Scientific Officer had now reported. They had before them a certificate submitted by Dr. Daniels, of the London School of Tropical Medicine, who had examined Mr. Hutchinson; Dr. Daniels was of opinion that Mr. Hutchinson is fit to return to India, but recommended that he should not come out until the end of the Summer so as to ensure his complete restoration to health. The Committee had accordingly suggested to Mr. Hutchinson that he should obtain a second medical certificate from Dr. Daniels in about two months' time, and if he then still thought that Mr. Hutchinson should remain in England until the end of Summer they proposed to grant him the further leave on half pay. As to re-engagement, they suggested that there should be a further agreement but that there should be a clause in it to the effect that six months' notice might be given should either side wish to terminate the agreement. Mr. Hutchinson's reply had not been received.

The General Committee fully considered the matter. It appeared to them that this information completely altered the position. They had asked the London Committee to discuss the question of Mr. Hutchinson's re-engagement, but at that time it was not contemplated that it would be necessary to extend his leave; and they felt that it would be well to re-open the subject from the beginning in view of the probability that Mr. Hutchinson would not return to India until the commencement of next cold weather. After discussion of the position it was decided to remit its further consideration to the Scientific Department Sub-Committee, with the addition of Mr. W. M. Fraser.

Cheesy Taint.—With Sir James Buckingham's letter of 11th December there was received for publication Mr. Hutchinson's Report on his investigations into the cheesy taint of tea.

The Committee resolved to print the Report for the information of members.

Anti-Tea-Duty League.—Some time ago the General Committee, in discussing the question of the administration of the Anti-Tea-Duty League, expressed the belief that if Sir James Buckingham would undertake the Secretaryship, there would be a renewal of the confidence which the League appeared to have to some extent lost recently. The suggestion had been considered by the London Committee who felt, however, that Sir James would not have time to look after the affairs of the League in addition to his other duties. It was mentioned that £100 had been guaranteed from the Indian Tea Fund towards the upkeep of the League until March.

"Thrips" Blight.—A letter of 20th December from Mr. C. B. Antram, the Association's Entomologist, was to be recorded. It mentioned that during his recent visit to Darjeeling he had been able to obtain some further useful data in connection with the "Thrips" Blight and that he had arranged for experiments on one or two gardens there during the coming season. He expected to return to Silchar towards the end of the month and would re-write for publication a note he had previously prepared on the Blight, which he hoped would enable Planters to carry out methods of treatment.

The General Committee discussed the matter. Their reason for dealing with the Dooars and the two valley schemes at the same time had been simply because the continued support of Proprietors was necessary in each case and

it was thought that it would save both time and inconvenience if the subject were referred to in the one circular. And regarding the fact of its being considered by the General Committee and not by the Sub-Committee this was also simply as a matter of convenience, and of the eight firms on the Sub-Committee, five were also on the General Committee. There was no intention in any way of going behind the Dooars Association ; having ascertained that Proprietors were not agreeable to go on supporting the levy the General Committee naturally considered that they should let the Dooars Association know as early as possible.

D. K. CUNNISON, *Assistant Secretary*. R. L. WILLIAMSON, *Chairman*.

Experiments by Garden Managers.

In a Circular dated 4th January, 1909, the Secretary, Indian Tea Association, remarks:—

The General Committee beg to invite your attention to the annexed copy of a letter from Dr. Hope, Assistant Scientific Officer, dated the 21st December, 1908, and to express a hope that your Managers will see their way to complying with his suggestions as regards communicating to the Department results of any experiments which may be carried out on their gardens.

Copies of the schedule referred to in the last paragraph of the letter will be furnished by Dr. Hope on application being made to him at the Heeleaka Experimental Station, Korea Kuthia P.O., Assam.

[ANNEXURE].

Dated Calcutta, 21st December, 1908.

From—Dr. G. D. HOPE, Assistant Scientific Officer,

To—The SECRETARY, Indian Tea Association.

Dr. Mann and Mr. Hutchinson have both drawn attention to the value of the information which individual Managers would obtain, if they were to carry on experiments in their own gardens not only in manuring, but in pruning, cultivation, &c. In many cases most valuable information has been obtained in this way. An increasing number of such experiments are now being made annually, and it appears that it is quite feasible in most cases for a Planter to carry on at least one carefully conducted experiment in each year without interfering unnecessarily with the general working of the garden.

The value of these experiments to the Tea industry as a whole would be much increased (1) if the exact conditions under which they were made were recorded, and (2) if the results could be collected and comparisons and generalizations deduced from them. Several such experiments have lately been carried out in the immediate neighbourhood of Heeleaka, and I have made a point of recording the results in detail. It is with the object of establishing a system whereby such data may be collected from the whole of the tea-growing Districts that I draw your attention to this matter, and make the following suggestions on the subject:—

- (1) That it be brought to the notice of all members of the Indian Tea Association that the Scientific Department is desirous of receiving details and results of any experiments which have recently been carried out ;
- (2) That it be brought to the notice of Managers of gardens that if any one, contemplating the carrying out of an experiment in any branch of Tea cultivation or manufacture, will communicate with the Scientific Department all possible help will be given if solicited, both in the designing of the experiments and in the interpretation of the results ;
- (3) That in order to ensure that full and comparable data of such experiments are recorded both by the experimenter and by the Scientific Department, a schedule be obtainable from the Scientific Department on which the details and results of experiments may be recorded, and that if the schedule be used a copy be returned to the Scientific Department on completion of the experiment.

Extract from Abstract of the Proceedings of a Meeting of the General Committee held on the 19th January, 1909.

Scientific Department.—With a letter of 8th January Dr. Hope sent a report on the work that had been going on at Heeleaka during his recent absence in Calcutta: the report is printed for information as an Appendix to these Proceedings.

Annual Meeting.—The Committee decided to hold the Annual General Meeting of the Association on Friday, February 19th, at 3 P.M.

Report on Work at Heeleaka.

HEELEAKA EXPERIMENTAL STATION, 8th January, 1909.

1. *Garden Work.*—During my absence from Heeleaka the following has been carried out:—

Pruning.—Six of the Manurial Plots, Nos. 14—19 inclusive, have been light pruned. The hedges of these plots and those of the old Pruning Plots have been cut down.

Hoeing.—The deep hoeing of the clearance has been completed. Hoeing and trenching of the new cold weather cultivation experiments which were mentioned in my last report has been done as follows:—

Two half-acre plots, whose yield for the last three years is known and which give nearly the same results, have been devoted to a comparison of trenching (15" alternate rows of tea) and deep hoeing at the rate of 20 nulls. This cultivation has been completed. Three other half-acre plots are being used to compare (1) trenching alternate rows of tea 18" deep, (2) one 15 null deep hoe, and (3) two 20 null deep hoes. This has all been carried out with the exception of the second 20 null hoe.

Manuring.—Two new manurial plots have been arranged in order to compare the results which may be obtained from the use of oilcake during the cold weather with those obtained from its use during the rains. For this purpose one half-acre plot has been treated with oilcake at the rate of 2 maunds per acre and two more applications of oilcake at the same rate are to be given during the cold weather. Another half-acre plot will receive similar amounts of oilcake during the rains.

New Clearance.—This has been fenced in and joined on to the old clearance.

2. At present the following work is in progress:—

Pruning.—The cleaning out of 8 B. has begun. This area was, as I mentioned in a previous report, badly affected with Thread Blight, and for this reason this particular method of pruning is being adopted.

A Seed-bed is being prepared for small quantities of Manipuri indigenous and Jaipur seed. This seed is unfortunately being put out very late. Statistics are now being collected of the tea in the clearance. This is shortly to be cut down and I am collecting data by which the progress of the different jats may be compared. There are very marked differences in the progress of the different kinds of tea all of which from the very beginning have received exactly the same treatment.

Office Work.—During my absence the office Babu visited several gardens in the neighbourhood in order to record the results of experiments which have been carried on by managers.

Outside Experiments.—He also laid out two plots in a neighbouring garden on which to study the effect of stick pruning on Thread Blight. Two plots were laid out. In both the total number of bushes and the total number of bushes affected with Thread Blight were counted. One plot has been light pruned, the other stick pruned. It is hoped that a quantitative idea of the effect of stick pruning upon Thread Blight may be obtained at the end of next season.

Visitors.—Mr. G. Edward of Grassmore, Doonars, visited the Experimental Station during December.

G. D. HOPE.

PLANTERS' ASSOCIATION OF CEYLON.

Extracts from Minutes of Proceedings of a Meeting of the Committee of the Planters' Association of Ceylon held at Kandy on Friday, the 8th January, 1909.

INSECT PESTS AND BLIGHTS.

READ letter from Mr. E. E. Green, approving of Mr. F. E. West's suggestion to introduce into Ceylon a predacious enemy (*Clerus formicarius*) of the shot-hole Borer and intimating that he was making further enquiries on the subject and that if the result was satisfactory he would be prepared himself to make the necessary arrangements.

Mr. F. E. West addressed the Committee with reference to the great amount of damage caused by the various species of "White Ant" in Ceylon and recommended their extirpation by means of a recently introduced fumigator to be obtained from Messrs. Gordon, Frazer & Co., Colombo. Mr. West also alluded to the serious danger of disregarding the attack on Tea by Green Bug (*Lecanium viride*), which had at first been mistaken for the Lantana Bug, and urged the necessity of immediately dealing with the blight by an application of quicklime to the bushes affected, after these had been pruned and the prunings burned. Mr. West received a cordial vote of thanks from the Committee for his address.

THIRTY COMMITTEE TEA CESS.

READ correspondence regarding discontinuance of the Tea Cess, and letter from Colonial Secretary intimating that a draft Ordinance making provision for applying the balance of the Cess Funds on the 31st December, 1908, in the same way as the proceeds of the Cess were formerly appropriated, was being prepared.

THIRTY COMMITTEE FOR 1909.

Resolved:—"That the names of the 24 representatives of the Planters Association at present serving on the Thirty Committee be submitted for election at the Annual General Meeting, as follows:—Messrs. N. W. Davies, Wm. Forsythe, R. H. Eliot, Wm. Sinclair, R. A. Galton, J. B. Coles, W. D. Gibbon, Wm. Gibson, David Kerr, E. Rosling, F. H. Layard, Joseph Fraser, A. J. Austin Dickson, Frank S. Vowler, T. Giddon, Hon'ble Mr. E. Turner, Jas. Westland, H. Storey, H. A. Beachcroft, H. Ingles, J. S. Patterson, W. S. T. Saunders, J. C. Dunbar and T. G. Hayes."

The "Thirty Committee."

Extract from Minutes of a Meeting of the Thirty Committee held at Kandy on Saturday, 9th January.

ANTI-CHINA TEA CAMPAIGN.

READ correspondence with the Ceylon Association in London, intimating that the decision of the Joint Indian and Ceylon Committee with reference to above subject was:—(1) That so far no active intervention was called for; and (2) that the monies voted might be retained for use in the event of a campaign becoming necessary. *Resolved*:—"That the Ceylon contribution to the Joint Fund of £2,000 be earmarked for 1909 only."

FINANCES.

Intimated that the sanction of His Excellency the Governor in Executive Council had been given to the appropriation of £5,500 for expenditure in advertising Ceylon Tea on the Continent of Europe, in America, and at the Munich Exhibition.

It was resolved:—"That the vote to Mr. J. H. Renton for 1909 and 1910 be increased to £5,000, and that Colonel Wayne Wilson be advised that the appropriation of £2,000 for advertising Ceylon Tea in America in 1909 is to be expended to the best of his judgment, subject to the approval of this Committee."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED

VOL. IV.]

MARCH, 1909.

[No. 2.

U. P. A. S. I.

INCORPORATED.

The Scientific Officer Scheme.

A recent official communication from the Government of Madras states that the matter of the Association's request for the appointment of a Scientific Officer to advise the Planting communities of Southern India, has been submitted to the Government of India, and that orders on the subject are expected shortly.

The Theni Bridge.

Information has been received from the President of the Madura District Board to the effect that an estimate for Rs. 30 000 for constructing a bridge designed to carry the ordinary road traffic over the Theniar, has been sanctioned by the District Board and sent to Government through the Superintending Engineer, VI Circle, for scrutiny and sanction. The District Board has allotted Rs. 15,000 for the work in the Budget for the next year, and arrangements will be made to start the work after the estimate is sanctioned.

Government Cinchona Plantations.

With reference to the Resolution on this subject passed at its last Annual Meeting, the Association has had its attention invited, by the Madras Government, to para. 2 of G. O. No. 2695 Revenue, dated 28th September, 1908, which reads as follows:—

“ The attention of Government has been drawn to a letter in the *Madras Mail* of the 30th July, 1908 from Mr. G. A. Marsh headed ‘The Madras Cinchona Department.’ The Director should inform Mr. Marsh that whilst Government have at no time made any promise that new areas would not be opened up for Cinchona cultivation and are therefore under no obligation in this respect, there has been no extension of the present plantations in the sense understood by him. Such land as is found necessary to maintain the existing effective area of the plantations will be added when required. Mr.

Marsh appears also to refer to the order of 9th December, 1896, in which Government resolved to purchase from local growers such quantities of bark as they might from time to time require. There has been no departure from this policy, and large purchases have repeatedly been made in the local market."

The Ceylon Tea Duty.

It will be remembered that at the Conference of representatives of the South Indian Tea Industry with Sir Roper Lethbridge on the 28th January the Vice-Chairman of the U. P. A. S. I., Mr. J. A. Richardson, stated that while Sir Roper and he were in Colombo last November leading Ceylon Planters said that they would be glad if one of the South India men would go over to discuss the subject of the Ceylon Tea Duty with them, and that it was also suggested that a delegate from Ceylon should attend the next Meeting of the U. P. A. S. I. It was felt to be impossible to send a delegate, fully instructed, to the Annual Meeting of the Ceylon Planters' Association to be held at Kandy last month, but that it was obviously desirable that someone should go to Kandy to elicit the views of the Ceylon men and to prepare the way for negotiations with a view to a friendly settlement.

Correspondence elicited an expression of opinion from Ceylon that the subjects of mutual interest to Planters in Ceylon and Southern India would be much more profitably discussed at a Committee Meeting than at a General Meeting.

Later, the Secretary to the Planters' Association of Ceylon forwarded copy of a Resolution that had been passed at a Meeting of the Committee held on the 16th February.

This Resolution was as follows:—

"That this Committee on behalf of the Planters' Association would be glad to receive and welcome a representative of the United Planters' Association of Southern India to discuss questions of mutual interest."

The invitation had special reference to the Committee Meetings to be held at Kandy on March 12th and May 14th.

The former date being convenient to Mr. George Romilly, who has kindly agreed to represent this Association, the invitation has been accepted for that date.

Extracts from the Proceedings of the Annual Meeting of the Planters' Association of Ceylon are given in another part of the present issue of *The Planters' Chronicle*. They throw light on the attitude of the Ceylon Planters in reference to the Ceylon Tea Duty and the reception given to the U. P. A. S. I.'s suggestion regarding a personal discussion. It is hoped that an interchange of views will help to clear up misunderstandings, and that it may be found possible to follow up the discussion in Kandy by another at Bangalore, if arrangements can be made for one or more delegates from Ceylon to attend the Annual Meeting of the U. P. A. S. I. at the latter place next August.

Sir Roper Lethbridge.

At the Annual Meeting of the Planters' Association of Ceylon, the following Resolution was passed unanimously in sympathetic silence:—

"That this Association tenders to Sir Roper Lethbridge a sincere expression of its deep sympathy in his sad loss and regrets his inability to attend the Meeting."

DISTRICT PLANTERS' ASSOCIATIONS.

The Central Travancore Planters' Association.

Proceedings of the Nineteenth Annual General Meeting of this Association, held at Twyford at 10 a.m. on the 23rd January, 1909.

Present:—Messrs. D. MCARTHUR (*Chairman*), J. A. RICHARDSON, H. DRUMMOND DEANE, F. BISSETT, H. C. WESTAWAY, T. C. FORBES, K. E. NICOLL, J. S. WILKIE, C. G. GORDON, E. S. STEPHENS, and F. E. THOMAS (*Honorary Secretary*).

The notice calling the Meeting was read and the minutes of the last Meeting were confirmed.

The Chairman's Address.

GENTLEMEN,

I see that I am put down for an Address. I do not think that there is much on which I need detain you. Our prices, although lower than those in 1907 have been fairly good. We suffered somewhat from the drop in prices last May and June, but we have since recovered from this "slump," and in spite of the extra 9½ million pounds which have been put on the London market up to the end of September the demand for all grades seems steady and likely to be stronger. I received no Tea circular last mail so am unable to give you figures regarding export and stock held in London.

Whether we can expect to obtain equally good prices for our Teas during the current year as those obtained last year, in my opinion, depends a great deal on whether the Home import duty on Tea is raised or not; whilst on this subject I would earnestly ask all members of this Association to support to the utmost the Anti-Tea-Duty League. As you are aware, the resources at the command of this League have been greatly crippled by help from the Indian and Ceylon Tea Cess Fund no longer being available for it. There is the greatest danger of the duty on Tea again being raised, and it behoves all those interested in Tea to combine and support the Anti-Tea-Duty League, which is the only organisation in England by which we can agitate.

Our thanks are again due to our Executive Engineer for the work done on the Kottayam-Kumili Road between Mundakayam and Peermade, but the less said about the state of the road between Peermade and Kumili the better. I trust that during this year we shall see all the bridges between Peermade and Kottayam strong enough to bear all kinds of estate traffic. We also have to thank His Highness's Government for the standardisation of weights and measures.

We congratulate the Dewan on the honor done him on the C.I.E. conferred on him.

The Periyar Bridge is at last an accomplished fact, but the Theni Bridge seems as far off as it was 10 years ago.

With regard to labour, considering the difficulty last year in obtaining labour owing to bumper crops and the outside competition with which we have had to contend this District may be said to have come through a difficult year, very well.

An expression of thanks to the Government for the prompt attention must be accorded by this Association in the matter of Arrack Shops.

I thank you, gentlemen, for your support and your Committee and Honorary Secretary for their advice and assistance and I now place my resignation in your hands.

The Honorary Secretary's Report.

MR. CHAIRMAN AND GENTLEMEN,

I shall not detain you long, as we have a long agenda paper before us this morning :—

PERIYAR BRIDGE.

This Bridge after many years has been opened for traffic and will be of great help to the District during the monsoon months.

ARRACK TAVERNS.

There has been a lot of correspondence about these taverns. The opening of the seven extra taverns has been stopped, although we have been unable to reduce the remaining seven.

GUDALORE REST HOUSE.

The old bungalow at Kuruvanooth has been dismantled and a new one built at Gudalore, although $2\frac{1}{2}$ miles further away from the foot of the Ghât. I am sure every one finds it more comfortable than the old shed at Kuruvanooth.

CARDAMOM HILL AND GLENMARY ROADS.

Over Rs.7,000 have been spent on these roads this last year.

There is still room for improvements, but considering the bad state in which the roads were handed over, we can but praise those who have done the work, under uphill circumstances and the roads are not what they were this time last year.

MEMBERSHIP.

The number of members of this Association during the past year was 15 representing a declared average of 8,050 acres.

CROP FOR 1908.

The returns show a decrease on last year's returns. The actual Crop Returns total 4,316,057 lbs. from 8,649 acres in bearing, or an average yield of 499 lbs. per acre, for the District, against 4,469,749 lbs., or 548 lbs., per acre in bearing, 1907.

ACCOUNTS.

			RS.	A.	P.
Subscription for 1908 amount to	...	...	1,509	7	3
Expenditure for 1908	„	...	1,243	3	3
Leaving a balance of	...	...	266	4	0
to which must be added last year's balance	...	...	395	4	5
and Bank interest for 6 months	...	...	12	12	0
Leaving a balance to be carried forward	...	...	674	4	5

In conclusion, I have to thank you, gentlemen, for the honor you have done me in electing me as your Honorary Secretary and I now beg to tender my resignation.

Proposed from the Chair that the Report be adopted and Accounts passed.—*Carried*

Sri Mulam Delegate's Report.

MR. CHAIRMAN AND GENTLEMEN,

I do not want to take up your time with a long report of the Sri Mulam Assembly, so will make it as brief as possible:—

MODIFICATION OF THE PROCEDURE ADOPTED FOR THE COLLECTION OF TAXES IN PEERMADE DISTRICT.

I explained to the Dewan that the manner in which the Taxes were collected in Peermade District caused great trouble and annoyance to us Planters. That it was chiefly due to the fact that while the accounts were kept in the one office, payment had to be made through another. I pointed out that demands for Taxes were not infrequently made on the original owner after he had sold his estate or portion of it. How that coercive processes had been used for the recovery of Taxes, though they had been previously paid. The Dewan's reply was short and sweet, he merely said the matter would be considered. I have since heard on very good authority that the accounts and payments will eventually be made through the one office, *i.e.*, that of the Superintendent, Cardamom Hills, but that cannot be done at once, as it will take some time to wind up the accounts in different offices.

ARRACK TAVERNS.

With regard to these I followed out your instructions and rather than delay you with the speech, I lay the report of the Sri Mulam Assembly on the table, so that anyone who likes may read what I said. The Dewan's reply was as follows:—In regard to the seven new arrack taverns, I understand that the Excise Commissioner has already received a complaint from a neighbouring centre, and is taking actions to close them. The two old shops at Maimallai and Kuttikanum cannot be disturbed during the currency of the present lease which expires only at the end of 1084. In future years, before granting new licenses, the Excise Commissioner will be asked to inform the Association of the sites, when the shops are proposed to be located and allow the Association an opportunity of giving their views on the matter. But it should be distinctly understood, that the Government are not bound to fix the sites of the shop only at places approved of by the Association.

I might mention that Mr. Deane and I had an interview with the Excise Commissioner, who I think sympathised with us. He had no idea that these new seven licenses had been issued, but on hearing of it promptly wired up and cancelled them. I should like to record what great help Mr. Deane was to me and thinks he deserves the Association's thanks for all that he did.

This I think covers all that directly interests the Association.

Mr. Cameron in a very able speech pointed out the hardships, on the recent enhancements of the Tax on waste lands granted for coffee cultivation, but the Dewan in his reply said that the order for raising this Tax was passed after careful consideration and that His Highness's Government were not prepared to exempt any area from the operation of the enhanced Tax.

Mr. Carson Parker (Delegate of the South Travancore P. A.) asked that the Pamalur Konni and Ranni Road should be cut through to Kanjirapally. The member said that if the proposed road were cut it would not be merely a Planters' road, but would serve the whole country around and that Munda-kayam and the surrounding Districts would then be brought into communication with the railway.

I was asked if I thought my Association would use it for our crops, when I replied in the negative, but thought they would support it. The Dewan replied that the request was noted.

This, gentlemen, I think is all there is to report, but I cannot close without thanking you for the honour you did me in electing me your delegate.

With regard to the Sri Mulam Delegate's report, Mr. Deane pointed out, that a certain amount of grass land was held by proprietors and in view of the increased Tax this land will have to be thrown up and revert to Government.

Proposed from the Chair, that a hearty vote of thanks be given to Mr. Westaway for his Report.

Correspondence.

ARRACK TAVERNS.

READ letters to the Dewan and British Resident on the subject and replies to the same.

KANJIRAPALLY TELEGRAPH OFFICE.

READ correspondence on this subject and reply to the same.

PEERMADE BANKSHALL.

READ correspondence on this subject and reply to the same.

THE FACTORY ACT.

A long discussion took place on this subject.

PROPOSED FROM THE CHAIR.

That this Association do respectfully request His Highness's Government that in Clause 6 of the Factory Regulations the words "Tea and Rubber Factories" should be inserted after the words Ice Factories.

Failing that, that the Legislative Council exempt all Tea and Rubber Factories from Clause 6 by a notice in the Government *Gazette*.—*Carried*.

PROPOSED BY MR. J. A. RICHARDSON AND SECONDED BY MR. DEANE.

"That a copy of the Resolution and a covering letter be sent to all Travancore Associations for their information."—*Carried*.

RESOLUTION.

Mr. Deane's Resolution was then put before the Meeting. "That this Association do respectfully bring to the notice of the Travancore Legislative Council the necessity of including in criminal cases subsequent advances made in rice and stores or cash supplied at the contractor's request and in view of the ruling of the High Court 14th T.L. Report, Appendix 30, ask for a revision of the wording of the Code, so as to include subsequent advances as is agreed to at the time of the original contract by the contractor and that immediate support of this Resolution be asked from the Committees of all Travancore Associations, should it be too late for this subject to be brought up at their first 1909 Meeting." Seconded by Mr McArthur.—*Carried*.

MR. DEANE'S RESOLUTION SECONDED BY MR. RICHARDSON.

"That this Association do elect a Game Committee for the current year and that that Committee do address His Highness's Government on the desirability of introducing both Gun and Game Licenses into Peermade High Range and such Districts in which there is no systematic cultivation of grain crop and in other parts of Travancore Gun Licenses only."—*Carried*.

The following Committee were then elected:—Messrs. H. D. Deane, F. Bissett, J. A. Richardson and D. McArthur.

RESOLUTION BY MR. RICHARDSON.

"That this Association draw the attention of the Postmaster-General to the delay in delivery of the Madras mails at Peermade. Madras letters are rarely delivered here the day they are received." Seconded by Mr. Westaway.—*Carried*.

DEPUTATION TO MEET SIR ROPER LETHBRIDGE.

Proposed by Mr. Westaway, "That the action taken by the Committee at the Meeting held at Bon Ami Bungalow on the 4th January, 1909, be supported." Seconded by Mr T. C. Forbes.—*Carried.*

PROPOSED FROM THE CHAIR.

"That Mr. K. E. Nicoll be asked to represent this Association and to meet Sir Roper Lethbridge at Bangalore, to which he kindly consented."

ROAD COMMITTEE.

READ Minutes of last Road Committee Meeting.

Resolved that the Minutes be passed.—*Carried.*

LABOUR RECRUITING DIFFICULTIES.

Resolved that the Honorary Secretary be asked to write to the U. P. A. S. I. Labour Committee and say that this Association do not consider the circulation of the questions *re* Labour difficulties expedient, and that the complaint from the Anamallai Planters' Association be referred to the U. P. A. S. I. Labour Committee.—*Carried.*

DISTRICT LABOUR RULES.

Resolved that the Rules be put in force for the current year.—*Carried.*

INDIAN MUTINY AND CRIMEAN VETERANS' FUND.

The Secretary reported that he has been unable to find any Society to accept the subscriptions collected for the cause.

Resolved that the amount be sent to Lord Roberts.

FITTER FUND.

Proposed from the Chair that the assessment for the current year towards the Fitter fund be fixed at 6 annas per 1,000 lbs. of made tea.—*Carried.*

By the permission of the Meeting Mr. Deane proposed the following Resolution:—

"That the Chief Engineer's attention be called to the danger to cart traffic at night by the unnecessary amount of guard stones erected on the Sircar Road, and he be asked personally to attend to the matter on his next visit, with a view to removing all unnecessary ones."—*Carried.*

PROPOSED FROM THE CHAIR.

In view of a possible General Election, this Association records its unanimous support to the policy of Imperial Preferential Tariffs.—*Carried.*

SUBSCRIPTIONS FOR 1909.

It was pointed out by the Chairman that a subscription of 2½ annas per cultivated acre should cover expenses, but at the suggestion of Mr. H. D. Deane it was resolved that the subscription should be the same as 1908, so as to meet any possible contingencies which may arise.

ELECTION OF OFFICERS FOR 1909.

MR. J. A. RICHARDSON, *Chairman.*
 „ D. McARTHUR, *Vice-Chairman.*
 „ T. C. FORBES, *Honorary Secretary.*
 „ H. D. DEANE }
 „ D. McARTHUR } *Committee.*

Mr. Richardson and Mr. Forbes thanked the Meeting for the honour done them in electing them.

With a vote of thanks to the Chairman, the Meeting closed.

(Signed) FREDERICK E. THOMAS,

Honorary Secretary,

Central Travancore Planters' Association.

The Wynaad Planters' Association.

*Proceedings of a General Meeting at Meppadi Club,
on 9th February, 1909.*

Present.—Messrs. ATZENWILER, BEHR, BISSET, BOUSFIELD, D. MACKENZIE, MACKINLAY, MCLEOD, MALCOLM, POWELL, WEST, WINTERBOTHAM, and C. E. ABBOTT (*Honorary Secretary*).

Visitor.—Mr. C. Howland.

In the Chair.—Mr. Atzenwiler.

1445. *Proceedings of last Meeting* were confirmed.

1446. *Sales by Government of produce on relinquished Estates*.—READ letter from Honorary Secretary to Deputy Collector, and his reply promising that full notice of these sales will be given in future.—*Recorded*.

1447. *Roads—Road 38*.—READ letter to Wynaad Overseer, and his reply stating that no lapse of funds would occur; that all material had been collected and that spreading is being completed; and that contracts have been given out and collection has commenced for 1909-10 work.

Road 35 B.—Mr. West stated (with reference to para. 1437 in January Proceedings) that up to February 4th no materials for repairs of the bridges on this road had been collected at site. The Honorary Secretary was instructed to write to the District Board Engineer, asking that this work may be expedited as it is getting late in the season and it is feared it will be difficult to complete it by March 31st. All the Association asks is to have the money that has been granted for this road spent on it.

1448. *Vayitri Sub-Magistrate*.—READ letter from Collector of Malabar stating that with reference to Messrs. Glenie and Hudson's complaints the Divisional Officer, after enquiry, considers that the Sub-Magistrate was not to blame, and that, on the records, the Collector has no reason to disagree with him.

READ letter from Sub-Magistrate stating that he will usually be in Court from 11 A.M. to 5 P.M. when at Meppadi and Sultan's Battery.

The Honorary Secretary was instructed to ask if, under Act I of 1903, it is necessary to stamp applications for the release of prisoners during the currency of their sentences.

1449. *Local Industrial Committee*.—READ letter from Collector of Malabar forwarded by Deputy Collector with copy of letter from Mr. Chatterton, Director of Industries, asking if any member of the Association will act on an Industrial Committee. and the Honorary Secretary's reply asking for further information.

Postponed till next Meeting.

1450. *Anti-Tea-Duty League*.—The Honorary Secretary reported that he had attended the Conference at Bangalore. The Resolution passed by the Conference was confirmed:—

“That, in view of the possible enhancement of the British Import Duty on Tea this Meeting strongly recommends that immediate financial support be given by all Companies, Proprietors, and Superintendents to the Anti-Tea-Duty League, with a minimum donation of Rs.5 from all Managers and Superintendents, as in the possible

event of a General Election the Anti-Tea-Duty League is the only organisation in a position to conduct a campaign on behalf of Tea."

Subscriptions should be sent direct to the Secretary, Anti-Tea-Duty League, 6, Old Queen Street, Westminster, S. W.

1451. *Ceylon Import Duty on Tea*.—The Honorary Secretary gave some details of what had occurred at the Bangalore Meeting, and of the assurances given by Sir Roper Lethbridge as to the anxiety of leading Planters in Ceylon to have this duty abolished as far as Indian Tea is concerned.

READ also a letter from one of the leading Ceylon Planters in modification of the above assurances.

The following paragraph from the Annual Report of the Ceylon Planters' Association received since the Meeting is published in further modification of these assurances:—

"*Ceylon Import Duty on Tea*.—The agitation for the removal of this duty was renewed during the year by the representatives of the Indian Tea Industry, but your Committee think it well that the position previously taken up should be adhered to, viz.: that through her own exertions Ceylon has obtained a special name and market for her Tea and that this advantage would be lost by the free admission not only of Indian, but of others, such as China and Java teas for blending purposes."

The Honorary Secretary was thanked for having attended the Conference, and the Meeting resolved that the extra expense he had incurred should be paid to him.

1452. *Labour Matters*.—Mr. Winterbotham addressed the Meeting and pointed out that there is great difficulty in getting contracts between Maistries and coolies attested in their villages both in Coimbatore and Mysore, and that the Planter runs great risk of losing his advanced labour by the inducements offered by foreign recruiters and others.

After some discussion, Mr. Mackenzie proposed and Mr. Malcolm seconded the following Resolution, which was *carried unanimously*:—

"That the Honorary Secretary be instructed to ask Government to grant powers of attestation to a suitable person or persons in Coimbatore District to be nominated and paid by the Association, in order to meet the difficulty experienced by our Maistries in getting this service performed."

U. P. A. S. I. Circular No. 3 of 1909.—*Resolved*, with reference to the Resolution passed by the Anamallai Planters' Association at their Meeting on January 1st, that this Meeting considers Mr. Waddington's explanation of the incident to be sufficient.

1453. *Destruction of Papers*.—The Honorary Secretary was authorized to destroy certain papers of no interest.

A vote of thanks to the Chair terminated the Proceedings.

(Signed) H. ATZENWILER,

Chairman.

(Signed) C. E. ABBOTT,

Honorary Secretary,

Wynaad Planters' Association.

The Shevaroy Planters' Association.

*Proceedings of a Committee Meeting held at the Victoria Rooms,
Yercaud, on 8th February, 1909.*

Present.—MESSRS. J. C. LARGE, W. RAHM, C. RAHM, C. G. LECHLER and CHAS. DICKINS (*Chairman and Honorary Secretary*).

READ letter to the Honorary Secretary, dated 13th December, 1908, from Mr. L. E. Buckley, Collector of Salem District, in which he states he is willing to become an Honorary Member of this Association.

(1) *Feeder Roads.*—READ letter, dated 17th December, 1908, from Collector asking for information on Feeder Roads, "Shevaroy's."

Resolved that the information be forwarded as soon as it is obtained.

(2) *Excessive valuation made on Forest Trees (Government Waste Land).*—READ letter, dated 10th January, 1909, from Mr. Cobbe complaining of excessive charges made by the Deputy Tahsildar, Yercaud, on useless forest trees for about 1½ acres of Government waste land applied for by Mr. Cobbe.

Resolved that the attention of the Collector be drawn to the excessive valuation of timber made on this small block of Government land, and to request him either to reduce the total to a reasonable figure, or to have the trees valued by the Forest Department.

(3) *Labour Recruiting.*—READ Circular from Secretary, U. P. A. S. I., dated 13th January, 1909, *re.* Labour recruiting.

Postponed to the consideration of next General Meeting.

(4) *Petition to the Collector to close Liquor Shop.*—READ letter from Mr. C. Rahm, dated 5th February, 1909, enclosing copy of petition from the headmen of the Puthoor Village, to the Collector, begging that the liquor shop in that village be closed and asking the Association for its support.

Resolved that this matter be brought to the Collector's notice by the Honorary Secretary as being the wish of this Association.

READ and recorded Circular No. 55/08 from Secretary, U. P. A. S. I., dated December, 1909.

Do.	do.	do.	No. 56/08	do.	do.	8th January, 1909.
Do.	do.	do.	No. 1/09	do.	do.	11th January, 1909.
Do.	do.	do.	No. 2/09	do.	do.	11th January, 1908.
Do.	do.	do.	No. 4/09	do.	do.	23rd January, 1909.
Do.	do.	do.	No. 5/09	do.	do.	1st February, 1909.
Do.	do.	do.	No. 6/09	do.	do.	3rd February, 1909.
Do.	do.	do.	No. 7/09	do.	do.	4th February, 1909.

(Signed) CHARLES DICKINS,

Chairman.

Shevaroy Planters' Association.

The Indian Tea Cess Committee has resolved to offer a bonus of 9 pies per pound on one million pounds of compressed Indian Tea to be sold in India during the year ending 31st March, 1910. If the intention is that this Brick Tea shall be consumed, as well as sold, in this country, the demand, as well as the supply, is a thing of the future.

At the Annual Meeting of the Colombo Tea Traders' Association on the 19th February, 1909, one speaker stated that rubbishy teas were not found only in the harbour, but in the catalogues. "It is a disgrace to the trade," he said.

INDIAN TEA ASSOCIATION, CALCUTTA.

Extracts from the Report of the General Committee for the year ended 31st December, 1908.

With the following local Associations and Branches the Committee have been in frequent correspondence during the year:—

Assam Branch, Indian Tea Association,

Hon'ble Mr. W. Skinner, *Chairman*.

Surma Valley Branch, Indian Tea Association,

Hon'ble Mr. W. T. Cathcart, *Chairman*.

Darjeeling Planters' Association, Mr. H. R. Irwin, *President and Hon. Secy.*

Dooars " " " W. Alston, *Chairman*.

Dehra Dun " " " J. Stansfield, *Hon. Secy.*

Teraï " " " G. W. Steward " "

Kangra Valley " " " R. J. Oates " "

United Planters' Associations of Southern India, Mr. H. Ormerod, *Secy.*

Central Travancore Planters' Association, Mr. E. Latter, *Hon. Secretary*.

Wynaad Planters' Association, Mr. H. Waddington, *Hon. Secretary*.

Planters' Association of Ceylon, Mr. Alexander Wardrop, *Secretary*.

Indian Tea Association (London).—The Committee have also kept continuously in touch with the Indian Tea Association, London, the Chairman of which is Mr. R. Magor, while Sir James Buckingham, *Kt.*, C. I. E., is Secretary.

Scientific Department.—The work of the Scientific Department during the year has, generally speaking, followed the same lines as that undertaken in previous years. It has, to a certain extent, been handicapped by the fact that Mr. Hutchinson, the Chief Scientific Officer, did not enjoy uniformly good health; after a short holiday in Ceylon towards the end of the cold weather he remained some time at the Heeleaka Experimental Station with Dr. Hope, who had recently joined the Department as Assistant Scientific Officer, and later on he made Calcutta his headquarters. But not long afterwards he had an attack of Malaria and was ordered home by his doctor; he left accordingly for six months' leave, and during his absence the experiments at Heeleaka are being supervised by Dr. Hope, Mr. Antram, the Association's Entomologist, being responsible for the work of his Department at Kanny Koory.

In his programme for the experimental work at Heeleaka Mr. Hutchinson sketched his proposals for the past and the coming seasons indicating the lines which the different investigations would follow. Attention is being given to the determination of the residual effects of various manures, a study of much interest and importance, as it may be found that a comparatively expensive manure is, because of longer retention of its properties, more economical to use than one of which the original cost is less; with a view to elucidating this point a system of manurial rotation has been instituted, and it will be necessary to continue this for some time before it will be possible to determine the question absolutely. Further plots are laid out to indicate the value of Potash as an ingredient of manurial mixtures, while some interesting experiments are in progress having in view the investigation of the use of bones for manurial purposes on tea. In Green manures, several varieties were tested during the three seasons from 1905 to 1907 and the plots on which the experiments were made are now to be left untreated in order that the residual effect may be observed.

An interesting series of experiments has been commenced, both in the laboratory and in the field, in connection with the use of Nitro-Bacterine; this culture can only be applied in the case of leguminous plants, so that for tea itself it is not of immediate value, but it is hoped that by inoculating Green manures, e.g., *Mati Kalai*, it may be possible to obtain good crops of such plants without any preliminary dressings of other manures. The laboratory experiments include the investigation of methods for determining the manurial requirement of tea soils, and enquiries into the chemistry of tea manufacture; and field experiments to determine the best way of keeping comparatively young tea in a state of health are contemplated, most of the experiments so far having been directed towards the renovation of old tea.

In regard to the Leaf Returns from the different manurial plots a new departure is being made this year in issuing particulars of these at the close of the year: while it is intended to publish the report on the working of the Heeleaka station during the year as soon as possible, it was thought that the separate publication of the Leaf Returns at once would provide data which planters would find of use in framing schemes of manuring for next season. Hitherto it has been usual to keep these particulars until the issue of the report on the working of the station.

During the year the Scientific Officers have paid numerous visits to different gardens for the purpose of advising on matters connected with cultivation, manuring, &c. Many planters have in the past themselves initiated experiments, and the suggestion was recently made by Dr. Hope that it would be useful if the results of these could be communicated to the Department; the latter would thus be in a position to make recommendations as to future experiments and to interpret the results. All members were informed of Dr. Hope's suggestion.

Mr. Hutchinson's Report on his investigation into the subject of "Cheesy Taint" was received towards the end of the year, and it has been printed for private circulation to members.

In the Entomological Department Mr. Antram has been principally engaged in important work on Mosquito and Thrips blights. In regard to the former as a result of his preliminary enquiry he was able to recommend, in January, a soap solution for the treatment of the tea bushes which he had found to be more effective than Kerosene Emulsion. Extensive experiments were made with the assistance of Managers during the year on gardens in different parts of the tea districts, and it is proposed to continue some of these further during the next season. But Mr. Antram was able to issue towards the end of the year a pamphlet detailing the conclusions he had arrived at, and this report contained much interesting information, hitherto unascertained, as to the life history of the tea mosquito. Thrips blight is peculiar to Darjeeling, and in reply to a request from the Darjeeling Planters' Association Mr. Hutchinson and Mr. Antram paid several visits to the district to study the blight; Mr. Antram's last visit was in December, and since his return to Kanny Koory he has been engaged on a report on the matter, which will be issued shortly.

The General Committee are glad to have an opportunity of expressing their indebtedness to all who have in different ways co-operated with the Department throughout the year, and they would offer their special thanks to the local Advisory Committee at Heeleaka for the valuable assistance they have given in regard to the experiments there.

Ceylon Import Duty on Tea.—It is a matter of much regret to the General Committee that their representation on this subject to the Government of India, of which mention was made in the Annual Report for 1907, did not meet with the success for which they had hoped. Indian planters have long objected to the handicap placed on their teas by the 4 annas Import Duty of Ceylon, and it is particularly hard on those in South India, whose most convenient market is Colombo, that all tea they sell there must remain in bond. The Committee have all along felt that, in view of the nominal duty of 5 per cent. payable by Ceylon teas imported into India, it is inequitable that Indian tea going to the island should be so heavily penalised, and although their previous efforts to have matters put on a more satisfactory basis had failed, they were hopeful that the strong joint representation to them by the Planting Associations of India, which was passed on to the Government of India, would be effective in securing the removal of the anomaly. In July, however, Government informed the Committee that the Secretary of State for the Colonies had been in communication with the Governor of Ceylon, and that the latter had, after consulting the principal local commercial bodies, expressed the opinion that it was not advisable to re-open the question meantime. The reasons which influenced His Excellency in arriving at this decision were as follows:—That local opinion had not changed and that it was felt that any gain to the mercantile community generally by the withdrawal of the duty would be made largely at the expense of the local producer: that the removal of the duty would probably lead to the exportation from Ceylon of some Indian teas in circum-

stances which would lead purchasers to suppose them to be the product of Ceylon, and that the removal of the duty on Indian teas for blending purposes would render it difficult to withhold a similar concession in favour of China teas imported *via* Hongkong, as that port, though not a producer, is a free port and, as a British Colony, might claim a share in any privilege granted by Ceylon to British India. In these circumstances the Home and the Indian Governments did not propose to take any further action in the matter. The General Committee, while adhering to the opinion they have repeatedly expressed, that the withdrawal of the duty would benefit Ceylon and India alike by making Colombo the greatest tea distributing port in the world, and that its retention places Indian teas at a considerable disadvantage, were agreed that there was no alternative but to drop the matter for the present at least.

Sales of Factory Sweepings.—The General Committee have at various times in the past taken the opportunity of addressing members of the Association on the question of the disposal of tea waste and sweepings. The subject was last referred to in the Annual Report for 1904, when mention was made of the desirability of preventing such refuse being sold for human consumption by obtaining from the Agents of caffeine manufacturers a sufficiently attractive price. It is believed that the Committee's recommendation has been extensively acted on since that time, and the question did not again come into prominence until the year under review, when it was brought up by the Dooars Planters' Association. It appeared that a demand which was steadily increasing existed in the district for sweepings, and the presumption was that ultimately the tea waste so purchased was destined for human consumption. The suggestion was made that the General Committee should again urge upon members the importance of having such an objectionable practice suppressed, and a circular was accordingly issued in September recommending that they should combine to refuse to sell their tea waste and sweepings to any buyers other than the recognised Agents of caffeine manufacturers. The Committee were glad to learn subsequently that their action was heartily endorsed in South India by the Wynaad Planters' Association, who adopted a Resolution on the matter, all members present at one of their meetings agreeing to destroy tea unfit for human consumption.

Taring of Tea Boxes.—In May, the Calcutta Tea Traders' Association asked the Committee to address the London Association on the question of the taring of tea boxes at the docks and at private wharves. They had found that frequently boxes were shown in weight certificates submitted in support of claims for short weight of tea as being of even tare throughout: and although in the case of patent chests it was recognised that there was little variation in weight, the difference between the weights of country boxes was often considerable. It was feared that the suggestion that every box should be tared instead of taking an average for the whole break would mean such an expenditure of time as would make it quite impracticable, but the papers were, as requested, referred to the London Association for disposal. The latter reported in due course that they had come to the conclusion that it would be unwise to approach the Customs authorities on the matter as the present system of taring teas was apparently working well and no complaints were heard of in London; and they pointed out that no advantage would accrue even were it decided to weigh every chest, as under the existing system what buyers lose on one chest they gain on another, and the weighing of all chests would involve higher warehouse charges.

Finance.—The total planted area represented by the Association during the year was 384,888 acres. The subscriptions at the rate of one anna per acre amounted to Rs.24,055-8-0. The Revenue Account shows a surplus of Rs.1,198-3-7, which has been transferred to Capital Account. On the 31st December, 1908, the balance in hand amounted to Rs.19,539-13-10. In addition to this, Government 3½ per cent. securities to the extent of Rs.35,000 are held by the Committee.

The Committee desire, in concluding their Report, to take the opportunity of once again expressing their acknowledgments to the Assam and Surma Valley Branches, and their Chairmen and Secretaries, for the valuable co-operation and assistance they have so readily given throughout the year.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee held on the 2nd February, 1909.

Scientific Department—(a) *Heeleaka Experimental Station*.—With a letter of 20th January, Dr. G. D. Hope had forwarded copy of Minutes of a Meeting of the Heeleaka Advisory Committee, held on the 15th January. At the meeting the question of experiments in the chemistry of tea manufacture had been discussed and there was some difference of opinion as to the desirability of carrying out such experiments; the subject was, however, to be brought up at the next Meeting of the Advisory Committee, when definite plans on the subject would be brought forward. In this connection the General Committee did not quite understand the difficulty, as they had thought experiments on these lines of considerable importance.

The question of conducting cultivation experiments on an additional area of ground to be obtained from the Scottish Assam Company had also been discussed at the meeting, and it was the general opinion that such experiments were desirable. Mr. Edwards, Manager of the Scottish Assam Company and a Member of the Advisory Committee, had expressed himself in entire agreement on this point, but referred to the difficulty of giving the additional labour—the Scottish Assam Company having always supplied the labour necessary for the experiments at Heeleaka. He suggested that the time had come for the Experimental Station to import its own labour force up to a certain fixed standard per acre, relying on his Company only for additional labour when necessary. In this connection the Chairman read a demi-official letter he had received from Mr. Edwards on the subject, dealing at length with the position from the points of view both of the Experimental Station and of his Company. He referred to the difficulty of always supplying the quantity of labour required and the disadvantages of the system, which resulted, he thought, in a want of efficiency, the coolies not working so well for the Department, as the Assistant Scientific Officer was not their proper master. He suggested that either the Experimental Station should import its own labour force, or that his Company should set apart a certain number of coolies for the sole use of and control by the Station, all losses being made good by the Company in return for a grant by the Association of an adequate sum for the value of the labour thus made over. In regard to this question Dr. Hope had been informed that the General Committee did not think it desirable that labour should be imported by the Experimental Station in view of the comparatively insignificant acreage it was concerned with. And the suggestion had been made that, if there were any difficulty in obtaining the necessary labour from the Scottish Assam Company, such rates for the work on the Station should be offered as would attract local cultivators. Some discussion took place on the question, and it was agreed to inform Dr. Hope that the Committee adhered to this view. But first of all his garden *mohurris* should map out the work to be done on the various experimental plots and the dates upon which it should be performed. In this way the Scottish Assam Company would know beforehand on what dates the Experimental Station would require large musters of labour and on what dates little or no labour would be required; and if the Company could not supply the requirements he could then, as already suggested, offer through the *mohurris* such *ticca* rates as would attract local labour.

(b) *Mr. C. B. Antram*.—A letter of 26th January from Mr. C. B. Antram, the Association's Entomologist, was considered. In it Mr. Antram applied for six months' leave from the 1st of May or at some other time within the current year; he mentioned that he had been in India for nine years without being Home and that he felt the necessity of a change as he had recently suffered considerably from malaria. He referred to the fact that under his agreement, he was to be allowed leave either in 1909 or 1910 and stated that he would like the leave this year as he felt that more malaria would incapacitate him from work; he also made suggestions as to the carrying on of the work at the Kanny Koory Insectarium during his absence.

The Committee decided meantime to postpone consideration of Mr. Antram's request.

R. L. WILLIAMSON, *Chairman*.

HEELEAKA EXPERIMENTAL STATION.

The accompanying table, shewing the leaf returns, up to and including 1908, from the Experimental plots at Heeleaka, has been circulated for general information. The figures will be referred to in the Report on the working of the Experimental Station to be issued hereafter.

1. Artificial Manures

Plot.	Manures applied during 1905, 1906, 1907 and 1908.	MAÜNDS OF TEA PER ACRE.					Total Incr.* %
		1905.	1906.	1907.	1908.		
1M.	None, Check plot ...	3'54	4'16	3'92	3'68	15'30	0'0
2M.	<i>Ammonium Sulphate</i> , 2 cwts. per acre, 1905 & 1906, none in 1907, in 1908 three applications of 1 cwt. per acre ...	4'70	5'61	4'90	6'00	21'21	27'8
2aM.	<i>Ammonium Sulphate</i> , 2 cwts. per acre, 1905 & 1906, none in 1907, in 1908 two applications of 1 cwt. per acre...	4'70	5'61	4'90	5'29	20'50	25'3
3M.	<i>Nitrate of Soda</i> , 2½ cwts. per acre, 1905 & 1906, none in 1907, in 1908 three applications of 1½ cwt per acre ...	4'96	5'57	4'38	6'40	21'31	28'2
3aM.	<i>Nitrate of Soda</i> , 2½ cwts. per acre, 1905 & 1906, none in 1907, in 1908 two applications of 1½ cwt. per acre ...	4'96	5'57	4'38	6'01	20'92	26'8
4M.	<i>Superphosphate</i> , 3 cwts. per acre; <i>Potassium Sulphate</i> , 2 cwts. per acre, 1905 and 1906, nothing in 1907, in 1908 three applications of ½ cwt. per acre of <i>Sodium Nitrate</i> ...	4'20	4'90	4'73	6'07	19'90	23'1
5M.	<i>Basic Slag</i> , 5 cwts per acre; <i>Potassium Sulphate</i> , 2 cwts. per acre, 1905 and 1906, nothing in 1907, in 1908 three applications of ½ cwt. per acre of <i>Sodium Nitrate</i> .	3'91	5'22	4'37	5'27	18'77	18'4
6M.	<i>Superphosphate</i> , 3 cwts. per acre; <i>Potassium Sulphate</i> 2 cwts. per acre; <i>Sodium Nitrate</i> , 2½ cwts. per acre, 1905 & 1906, nothing in 1907, in 1908 three applications of ½ cwt. per acre of <i>Sodium Nitrate</i> ...	5'70	6'36	6'15	5'68	23'89	21'6
7M.	<i>Basic Slag</i> , 5 cwts. per acre; <i>Potassium Sulphate</i> , 2 cwts. per acre; <i>Sodium Nitrate</i> , 2½ cwts. per acre, 1905 & 1906, nothing in 1907, in 1908 three applications of ½ cwt. per acre of <i>Sodium Nitrate</i> ...	5'40	5'91	5'88	6'05	23'24	19'4
8M.	None, Check plot ...	3'75	4'86	4'87	5'23	18'71	0'0

* The percentage increases for plots 2M to 6M are calculated with reference to Check plot 1M; those for plots 6M and 7M are calculated with reference to Check plot 8M.

2. Oil-Cake and Castor Meal.

Plot.	Manures applied during 1905, 1906, 1907 and 1908.	1905.	MAUNDS OF TEA PER ACRE.					Incr.* %
			1906.	1907.	1908	Total.		
8M.	<i>None</i> , Check plot	... 3'75	4'86	4'87	5'23	18'71	0'0	
9M.	<i>Mustard Cake</i> , 15 mds. per acre in 1905	... 5'14	6'26	5'43	6'80	23'63	20 8	
10M.	<i>Mustard Cake</i> , 5 mds. per acre in 1905, 1906 and 1907	... 5'40	6'67	7'32	7'87	27'26	31'3	
11M.	<i>Castor Meal</i> , 15 mds. per acre in 1905	... 5'00	5'50	5'91	5'91	22'32	16'1	
12M.	<i>Castor Meal</i> , 5 mds per acre in 1905, 1906 & 1907...	4'70	6'30	6'34	6'25	23'59	20'6	

EXPERIMENTS IN 1908.

		1907.	1908.	Increase.
3P.	Mustard Cake, three applications of 2 mds. per acre. Total 6 mds.	... 3'60	4'69	1'09
3aP.	Mustard Cake, 6 mds per acre in one application	... 3'60	4'33	0'73

3. Cattle Manure.

Plot.	Manure applied during 1905, 1906, 1907 and 1908.	MAUNDS OF TEA PER ACRE.					Incr.* %
		1905.	1906.	1907.	1908.	Total.	
13M.	Cattle Manure, 20 tons per acre in 1905	... 4'78	6'11	5'46	4'93	21'28	12'0
14M.	Cattle Manure, 6½ tons per acre in 1905, 1906 and 1907.	3'97	5'61	5'55	5'95	21'08	11'2

EXPERIMENTS IN 1908.

		1907.	1908.	Increase.
17M.	Cattle Manure, trenched 400 mds. per acre every row	... 4'78	5'65	0'87
18M.	Cattle Manure, broadcasted 400 mds. per acre	... 4'68	5'81	1'13

4. Sterilized Animal Meal.

EXPERIMENTS IN 1908.

Plot.	Manure applied.	MAUNDS OF TEA PER ACRE.		
		1907.	1908.	Increase.
4P.	Ster. Animal Meal, three applications of 1 md. per acre Total 3 mds.	... 3'44	4'64	1'20
4aP.	Ster. Animal Meal, 3 mds. per acre in one application	... 3'44	4'37	0'93
7aPl.	None, Check plot	... 6'99	6'25	
7Pl.	Ster. Animal Meal, 3 mds. per acre in one application	... 6'99	6'98	
8Pl.	Ster. Animal Meal, 5 mds. per acre in one application	... 6'90	7'69	
8aPl.	Ster. Animal Meal, 7 mds. per acre in one application	... 6'90	7'21	

* The percentage increases are calculated with reference to the Check plot 8M above.

5. Green Manures.

Plot.	Green Manure.	MAUNDS OF TEA PER ACRE.					Incr.* %
		1905.	1906.	1907.	1908.	Total.	
1.	<i>None</i> , Check plot ...	4'38	5'42	5'35	5'48	20'63	0'0
3.	<i>Dhaincha</i> in 1905, 1906 and 1907 ...	4'61	5'72	6'07	5'53	21'93	5'9
5.	<i>Mati Kalai</i> in 1905, 1906 and 1907 ...	4'61	5'81	6'43	6'74	23'59	12'5
6.	<i>Arhar</i> in 1905, 1906 and 1907.	3'90	5'61	7'02	7'00	23'53	12'3

6. Pruning Experiments.

Plot.	Treatment.	MAUNDS OF TEA PER ACRE.					Incr.† %
		1905.	1906.	1907.	1908.	Total.	
2.	<i>Cleaning out</i> annually since beginning of 1905 ...	4'50	4'08	5'05	5'21	18'84	6'3
5.	<i>Bagjan pruning</i> annually since beginning of 1905.	4'12	4'49	5'63	4'99	19'23	8'2
6.	<i>Ordinary district pruning</i> annually since beginning of 1905 ...	4'19	4'47	4'79	4'20	17'65	0'0

* The percentage increases are calculated with reference to Check plot 1.

† The percentage increases are calculated with reference to plot 6.

The Secretary to the Anti-Tea-Duty League has kindly sent out an advance copy of a little book, entitled "The Fertilization of Tea," by George A. Cowie, M.A., B. Sc., published by the *Tropical Life* Publishing Department, London. Price 2s. 6d.

Mr. J. B. Carruthers, formerly Mycologist to the Ceylon Government and at present Director of Agriculture and Government Botanist in the Federated Malay States, has accepted a post in Trinidad.

The *Ceylon Observer* of January 25th remarked:—"The largest operators during the past few weeks have been buyers for the London market, and in some quarters it is believed that their extensive purchases are in anticipation of the increased duty in England which, some people in well-informed circles are firmly convinced, will be established when the next Budget is passed. Another sound mercantile opinion, however, is that while no doubt there is possibility of increase in duty, buying from London has also been the result of a higher market there, leaving a margin of profit for purchases made here. Still another is that the duty will be unchanged!"

The Ceylon Produce Committee in London has invited the Indian tea interests to join in a memorial to the Chancellor of the Exchequer, asking that the Tea duty be not increased. More recent reports show that the fear that the duty will be increased has become more general.

PLANTERS' ASSOCIATION OF CEYLON.

Annual Meeting.

The Fifty-fifth Annual Meeting of the Association was held at Kandy, on the 12th instant, Mr. H. A. Beachcroft, Chairman of the Association, presiding. The following are

EXTRACTS FROM THE ANNUAL REPORT.

Submitted by the Committee :—

Your Committee have pleasure in submitting the 55th Annual Report and in noting a slow but steady increase in the Register of Members, which at the 31st December shows a total of 1,129, of which 68 are new subscribers.

The present financial position is satisfactory.

The number of District Associations remains at 27, as for last year, which, however, will probably be increased to 28 in 1909 by the reconstitution of the Balangoda Planters' Association as a separate body.

CEYLON ASSOCIATION IN LONDON.

Your Committee regret that, owing possibly to insufficient interchange of views, the co-operation of the Ceylon Association in London in connection with the continuance of the Tea Cess was not as hearty or effective as could be wished, the utmost importance being attached by the Home authorities to complete unanimity on so vital a question.

BRITISH IMPORT DUTY ON TEA.

Your Committee are of the opinion that the aim of the Association should be primarily to obtain a reduction of the Tea duty to 4*d.* by the remission of the 1*d.* still allowed to remain of a war tax which was always intended as only a temporary addition.

It is for this reason, and without any political motive, that they strongly advocate the keen support of the Anti-Tea-Duty League or any other Association legitimately aiming at the reduction of the Duty.

CEYLON IMPORT DUTY.

The agitation for the removal of this duty was renewed during the year by the representatives of the Indian Tea Industry, but your Committee think it well that the position previously taken up should be adhered to, *viz.* :— That through her own exertions Ceylon has obtained a special name and market for her Tea, and that this advantage would be lost by the free admission not only of Indian, but of others, such as China and Java teas, for blending purposes.

INTERNATIONAL RUBBER EXHIBITION.

A generous grant from Government of £1,000 enabled Ceylon to make a very good show at this Exhibition, and it was generally agreed that the Exhibits of Rubber from the Island were of excellent quality.

At the close of the Exhibition the Ceylon Rubber Exhibits together with samples of Cardamoms were forwarded to the Colonial Products Exhibition, Liverpool, where they attracted much attention.

PLANTING PRODUCTS

TEA.

Speaking generally the season in 1908 has not been so favourable for yield as 1907.

The total shipments (of Black and Green Tea) for 1908 were 180,049,321 lbs. and for 1907, 182,023,732 lbs.

Manuring and cultivation have been fully maintained.

The area in Tea is being increased, as indicated by the continued demand and high prices paid for Tea seed.

Tea fields interplanted with Rubber, where the latter is over 7 years old, are undoubtedly falling off in yield.

The average price of high-grown Teas has been maintained, but Low-country Teas show a drop of 3 cents. to 5 cents. per pound.

The outlook at present is encouraging for all classes of Ceylon Tea.

COLOMBO TEA REPORT FOR 1908.

The year has passed off with no very strong feature to mark it, unless it has been the remarkable position that high class fannings and dusts occupie during the first three months of the year, and again in the Autumn, resulting in record prices being paid for the finest, the demand being for the Russia Brick-Tea trade. The prices fluctuated, however, during the course of the year and at times they fell to the ordinary level.

As regards the quality of tea in general, Low-country sorts have been nothing more than the average and perhaps barely equal, but some true-flavoured fine teas made their appearance on the market during the months of August and September, many invoices, particularly from Newara Elia and the Uva side of the country, being much above the average and extreme rates were paid for teas of this stand-out class.

The quantity offered on the Colombo market has increased by over six millions, and although the average price for the year is below that of 1907, it must be borne in mind that the world's trade has been much restricted and it is gratifying that tea has held its position as well as it has done.

There has been an increase in direct shipments to Russia, America and India, and the year closes with a good statistical position and with every indication of an improved market for 1909.

The average of local sales is 38 cents. compared with 40½ cents. for 1907, and the quantity offered 84,550,381 lbs. against 78,177,234 lbs. in 1907.

The estimated tea crop for 1909 is 182,000,000 lbs., distributed as follows:—

United Kingdom	...	...	...	107,500,000 lbs.
Russia	...	...	...	21,000,000 "
Other Countries in Europe	...	...	...	2,500,000 "
America	...	...	...	16,000,000 "
Africa and Mauritius	...	...	...	2,000,000 "
Australia	...	...	...	23,000,000 "
India	...	...	...	2,000,000 "
China and Singapore	...	...	...	8,000,000 "
				<hr/>
				182,000,000 lbs.

GREEN TEA.

The year opened with the general average of prices on a somewhat inflated basis, in sympathy with the high rates ruling for all kinds of Black Tea. Before the first four months had passed, however, the market began to give way and by the middle of the year prices reached a more normal basis. The month of July saw increased supplies put on the market and prices again began to decline. The last few months of the year showed little variation in prices, and the year closed with a good healthy demand at firming rates.

The most gratifying feature of the season has been the increased demand for Ceylon Greens for America, and shipments to that market are practically 1½ million lbs. ahead.

Russian figures, which represent shipments to Central Asia, are disappoint, ing and show a considerable falling off. This is to be regretted, as the bulk of the Tea which finds an outlet in that quarter is from Up-country Estates and the output of high-grown Green Tea seems likely to be restricted until the markets in Central Asia show some recovery.

Shipments of Green Tea to all markets for the season total slightly over 5½ million lbs., or about ¼ million lbs. behind last year.

Generally speaking, quality and manufacture during the season have been good.

RUBBER.

Rubber generally in the Low-country, where planted in suitable soil, is a distinct Agricultural success.

Some of the drier Districts have this year suffered somewhat from the abnormally dry weather, but, generally speaking, the growth has been good and your Committee are glad to be able to report a continued freedom from pests and disease.

A much smaller acreage has been opened during 1908 than in the four years immediately preceding, as with the fall in prices, following on several very busy seasons many Proprietors thought it advisable to mark time.

The greatest keenness is evinced by all Estate Managers in the general treatment of this product and a new method of tapping, which promises to be a success, should greatly economize labour and cost of working.

Estimates of the cost of bringing Rubber into bearing in Ceylon have been generally revised during the last two years and in some quarters there are advocates of allowing Rubber into weeds and grass, once it is a given size, in order to economize in what has proved the most expensive item in upkeep. One great advantage claimed by the advocates of the above system is that it practically prevents all wash.

The year, which so far as price was concerned, opened so gloomily closes with a market quotation for fine Para @ 1s. 6d. higher than in January, *viz.*, 4s. 11d. as against 3s. 5d. and the world's visible stocks much reduced.

CACAO.

The crop for the year was 62,186 cwt. against 92,511 cwt. in 1907, the deficiency being the result of the worst drought known in most of the Cacao Districts for the last 25 years. North Matale and the Dumbara Valley in particular felt the adverse climatic conditions.

A few Estates, more within the direct influence of the South-West Monsoon, did well, in fact got record crops, but the greater part of the Cacao districts suffered severely.

Partial rains set in, however, in September, and the general condition of the Estates is now favourable, and there is promise of a good Spring crop and with a normal season the crop for 1909 should be a fair one.

The estimate is 75,000 cwts.

Prices for Ceylon Cacao have been satisfactory and although lower than in 1907, more than maintained their position in comparison with other growths.

Unfortunately stocks in London are now higher than they have been for some time, *viz.*, 69,000 packages as against 30,000 and 46,000 in 1907 and 1906.

Canker and disease give little trouble, and with ordinary care there is little to fear from these pests.

CARDAMOMS.

Owing to the prolonged drought, the crops were generally irregular, the fruit smaller and the bulk of the crop gathered from the top fields. Prices were lower than last year, ranging from 60 cents. to Re.1'00 per lb. for Green dried. and to Rs.1'35 per lb. for bleached in the local Market, and the top price for bleached London was 2s. 8d. per lb.

Prospects for 1909 are promising as there is a good show of fruit for the first quarter, but at present 750,000 lbs. is the estimated crop for the year.

Cess Fund.—A case of Cardamoms was sent to Nagpur Exhibition, and an Exhibit sent to the Colonial Products Exhibition, Liverpool, under the care of Mr. W. Shakespeare, Colombo, to whom Ceylon Cardamom growers are greatly indebted for the trouble and time expended in displaying and calling attention to their Exhibit.

A further sum of Rs.2,531.50 has been spent during the year in advertising Ceylon Cardamoms in American and Indian papers.

CAMPHOR.

The acreage under this product has increased but little during the year. The price has fallen from 400s. to 135s. per cwt. during the last two years owing to the introduction of Synthetic camphor. The price, however, is dependent on that of turpentine, and as this shows a tendency to increase, the outlook is more hopeful.

Camphor trees make excellent wind belts and are ornamental through Tea and the possible harm from any leaves getting into the Tea is nominal,—should by chance any leaves get mixed with the withered Tea leaves in the rollers, Camphor is so volatile, that it is driven off in the firing machines.

No reliable figures are yet available as to the cost of production or the yield per acre, but the small shipments from Ceylon have sold on the London Market at prices equivalent to the China and Formosa Camphor.

INSECT PESTS AND BLIGHTS.

The area of Tea affected by Shot-hole Borer continues to increase, but high cultivation goes far towards minimizing the ill-effect.

Mr. F. E. West, Acting Government Entomologist, urges the introduction of a predaceous insect (*Clerus formicarius*), which has been tried with marked success in America on a similar pest.

Your Committee referred the matter to Mr. E. E. Green, now on leave, who is making enquiries on the subject, and if the result is satisfactory would be prepared himself to make arrangements for the introduction of a sufficient number of this insect into Ceylon, as an experiment, and your Committee strongly advise that Mr. Green be given a free hand in this matter, subscriptions being invited to defray the cost from Estates suffering from Shot-hole Borer.

Mr. Kelway Bamber recently drew attention to what he feared was a tendency of the Lantana bug (*Orthesia insignis*) to attack tea, in a District visited by him. Microscopic investigation, however, showed that the damage was in fact caused by *Lecanium viride*, which on many Estates was the final cause of the collapse of coffee. This pest requires very careful watching, and your Committee trust that this warning will have due attention from the several Pest Boards.

EXTRACTS FROM THE CHAIRMAN'S SPEECH.

In the course of his speech Mr. H. A. Beachcroft, the Chairman, said:—

The CHAIRMAN: Gentlemen, before moving the adoption of the Report, I should like to make a few remarks in the nature of a summary of the doings of the past year. I first have to congratulate the Association on the very sound prospects of our staple product, short stocks, and estimates of yield which are moderate, making the condition exceedingly sound. There are signs of a revival in trade after the depression in 1908, resulting mainly from the financial crisis in America, pointing to increased consumption and greater demand. Rubber also has improved in price, and a great interest is being shown by manufacturers in the product and also the new tapping methods discovered in Ceylon, which, it is hoped, will not only halve the cost and production, but increase the yield. This leads us to believe that the sound hopes we have formed about it may be fulfilled. My summary will not be complete, unless I touch upon an incident, which I may call the rail freight, on rice at our opening meeting last year, not with any desire to re-open the discussion which the Government chose to close, but because I have no doubt in my own mind that it will be necessary to agitate again some day in the same direction; and then I hope that our reply to the Government message may be of some use in furnishing material. But I would suggest that we should also agitate with Government for the appointment of a Commission to consider the question of taxation by means of which possibly some new means, fairer means, of raising revenue might be found, and so enable Government to relieve us from

that tax and other taxes, such as tolls, which we find a little burdensome. I want to quote you some figures furnished by Messrs. Crosfield & Lampard which are really rather interesting. They are taken for 10 years. In 1897 the output of British tea was 269 millions—but I think I will begin first with

THE TEA CESS.

I will come to those figures later. In reference to the tea cess, in spite of strenuous protest on the Ceylon side, which, unfortunately, was somewhat enfeebled by a half-hearted, and certainly what we could not help thinking was a futile, resolution of the London Association, in spite of that I say, and even of the generous advocacy of His Excellency the Governor, the decision of Lord Elgin to shut down the tea cess and discontinue the collection of the cess by Government was confirmed, and the ordinance came to an end, and an Ordinance has been merely framed and passed for the administration of the balance of the funds in the hands of the Committee. The result, if we are unable to find out some other means of pushing the consumption of our tea, will, I take it, be disastrous. We are absolutely forced to economise, we are forced to curtail expenditure both in America and on the Continent at the very time when special efforts are needed, for example in France, where Annam tea is being passed very freely in the place of Ceylon tea, much to the prejudice of the latter. Now I should like to quote those figures of Messrs. Crosfield & Lampard, for ten years, from 1897 to 1907. In 1897 the output was 269 millions against an export of 51 millions, or 19 per cent. of export. In 1907 the output was 400 millions with an export of 170 millions, or 41 per cent. of export, or an increase of export, in the ten years, of 233 per cent., which, as I say, amply justifies the persistent efforts of planters in opening new markets, while—this is a remark which I do wish you to take stock of—while, as I add, they have also resulted in a partial movement of the world's tea business to the countries of production. Now, gentlemen, I think if you study that remark you may rather come to the conclusion that therein lies

THE SECRET OF LONDON OPPOSITION TO THE TEA CESS.

Well, gentlemen, so it is, at all events Messrs. Crosfield & Lampard's figures show clearly what great advantage there has been to the sale, and if, as I say, that is shut down we shall have to resort to new measures, some means of increasing consumption. One of those would be, I should think, support of such an institution as the Anti-Tea-Duty League which, by lowering the cost to the consumer, increases the consumption of our product. I should now like to refer to

THE CEYLON IMPORT DUTY.

That was brought to our notice again some days ago, when I received a letter from the Secretary of the United Planters' Association of Southern India saying that they would very much like it if we would invite a delegate over to our meeting to-day to confer on the subject of this duty and consider also the possibility of relieving Indian tea from the duty, while leaving other teas subject to it. I consulted the Honourable the Planting Member in Council, and he agreed with me that it was not an opportune moment for discussing this question, especially in regard to the preferential character of the proposed arrangement. It was, however, suggested that an interchange of views between the two Associations might be useful to both, and this morning our Committee passed a resolution requesting the Secretary to write to the Southern India Association saying that we should be exceedingly pleased to receive any representation from the planters of Southern India who would like to confer with us on the subject, at our next meeting, General Committee Meeting, on March 12th. I think myself that that was really rather a sound arrangement. It is not only the Import Duty. There is a very, very strong feeling in Ceylon at present against the remission of that Import Duty. Therefore they are not to be encouraged to think that that Conference will lead to anything in that direction; but there are other questions such as labour questions and troubles which I have no doubt, very shortly, in coming years, will crop up between ourselves and Southern India, and there certainly is no harm in talking them over.

The Planters' Chronicle.

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U. P. A. S. I.

INCORPORATED.

Ceylon Planters.

Mr. George Romilly attended the Meeting of the Committee of the Planters' Association of Ceylon at Kandy on the 14th March, with a view to paving the way to complete accord between Planters in Ceylon and in Southern India.

The official report of the Meeting, so far as it is of immediate interest to Planters in Southern India, is given on another page. This renders publication of Mr. Romilly's report to the U. P. A. S. I. unnecessary, but it may be stated that Mr. Romilly refers in highly appreciative terms to the great civility shown him by the Chairman, Secretary and others at Kandy, and writes that "everything went off very cordially and pleasantly." He considers that his mission was successfully carried out, and that the way is clear for closer relations between the Planting communities of Ceylon and South India.

Writing on March 16th, the *Ceylon Observer* said:—

"Saturday's Meeting of the Committee of the Planters' Association was rescued from uneventful dullness by the presence of Mr. George Romilly, the representative of the South Indian Planters' Association, who appeared before the Committee as the herald of peace, to clear up old misunderstandings, heal ancient sores and pave the way for harmonious and united action in the future on questions of mutual interest which may hereafter arise. Mr. Romilly was successful in his mission, and the olive branch he so frankly and tactfully held out was readily accepted by Mr. Rosling as the leader of the Ceylon Planting community. We direct attention to the full report of Mr. Romilly's remarks, embodied in the official minutes of the Meeting which we publish elsewhere to-day. Mr. Romilly made it clear that the object of his present visit is not to endeavour to have Ceylon import duty as regards Indian tea reduced or withdrawn. We gather from his remarks that the South Indian Planters' Association now accepts the situation as it exists.

"The hatchet will be buried and the fight for abolition of the Ceylon import duty will cease, until the happier (?) days predicted arrive when an Imperial Government pledged to Tariff reform and Preferential Tariffs is returned to power; and when the two Associations may possibly be able, under a then

different Tariff arrangement, to come to some mutually satisfactory conclusion on the matter. Meantime we may take it the breach made by hard words uttered during the heat of conflict has been filled up by Mr. Romilly's tact and the two Associations are prepared to act jointly whenever the occasion arises. Already the effects of the *entente* are visible.

"Under the paragraph dealing with the Coast Agency in the minutes of the Committee Meeting it will be noted that Mr. Rowsell has removed his Agencies from Palghat and Coimbatore in order to do away with the cause for friction with the South Indian Planters who recruit there. This proof of Ceylon's desire to dwell in amity with their South Indian brethren will no doubt be duly appreciated."

Sir Roper Lethbridge.

Before leaving India, Sir Roper Lethbridge, K. C. I. E., addressed the following letter to the Secretary, U. P. A. S. I.:-

"Before leaving for England—where, if life and health be spared, I shall hope to devote myself largely to the advocacy of the interests of the Tea Industry—I desire to thank your Chairman and the Committee of your Association for the great kindness and courtesy shown to me on the occasion of our recent Conference at Bangalore. And I am extremely glad to see that it has borne such excellent fruit, especially in the successful visit of Mr. G. Romilly to Ceylon, to whom, and to Mr. Richardson, I venture to think the whole Tea Industry is greatly indebted for the establishment of what I hope will turn out to be a thoroughly workable and *beneficial entente cordiale* between the Planters of India and those of Ceylon.

"The Secretary of the Anti-Tea-Duty League in London tells me that the Executive Committee of that League are now fully confident that they will be able to do battle for the industry in the coming stirring times, though whether they will be able to avert an increase of the Duty still remains to be seen.

"Though sadly hampered, as you are aware, by a most overwhelming recent bereavement, I have been able to hold some communications with the authorities on the subject of the proposed railway to connect Arsikere with Hassan and Mangalore. It appears that, for the present, at any rate, the commitments of the various Governments concerned render it extremely unlikely, I fear practically impossible, for them to help us to the extent necessary to justify the commencement of the line. I am still confident that, as the Railway Board said, it must come sooner or later, and I hope rather sooner than later. Meanwhile, there is a very promising project on foot for meeting the immediate demands of the traffic—I trust only as a stop-gap until the Imperial programme can adopt the greater project of a railway from Arsikere to Hassan and Mangalore—by the establishment of a Kenard Road Train service over this route, and possibly by a second over a more southern route to serve Tellicherry. It seems to me that, if it be quite impossible for the moment to get sanction for the Railway that is so greatly needed, and that is bound to come, the establishment of this stop-gap service will at any rate do much to develop the traffic and open up the country, and will in this way greatly reinforce the demand for the Railway. The service, as your Committee will know, is not in the nature of a necessarily permanent one; and so I think its establishment will prove a good step in advance towards the goal which we wish to attain."

The U. P. A. Labour Committee.

The Wynaad Planters' Association, at a Meeting held on the 10th March, passed a Resolution giving expression (i) to the opinion that the matter of inter-District Labour troubles is one which the above Committee might leave to be settled separately from the chief point in the Resolution passed at the last

Meeting of the U. P. A. S. I., *viz.*, the best means to be adopted to put a stop to the emigration of advanced labourers to foreign countries; (ii) to the hope that the Committee will be able to make a report on this point at an early date.

There was considerable discussion, and the Honorary Secretary writes:— "It was believed that the delay in getting a report from the Committee was caused by several Associations not having replied to the list of questions that was circulated, but that the Committee might be able to report on the emigration difficulty without reference to the other subjects that have been introduced."

The Members of this Committee will meet at Coimbatore on May 10th.

Mysore Dasara Exhibition, 1909.

Mr. G. H. Krumbiegel, Superintendent, Mysore Government Botanic Gardens, desires that the attention of all Planters in Southern India be invited to the coming Dasara Exhibition at Mysore City. The following is a circular letter intended for every such Planter:—

MYSORE GOVERNMENT BOTANIC GARDENS,
LAL-BAGH, BANGALORE,
20th March, 1909.

MY DEAR SIR,

Having been appointed President of the Dasara Exhibition Committee, I should greatly esteem it, if you would favor the coming Exhibition with your patronage.

I noticed at the last Exhibition Plantation produce was very poorly or not at all represented.

Most probably the cause for this lies in the fact that by the time the prospectus is issued Planters have disposed of their produce and for this reason I take the liberty to address you now.

I think, before looking to the extension of the scope of the Exhibition it is very desirable that we should make a really representative show of the Agricultural, Plantation and Industrial products of the Province and adjoining districts.

You would greatly help this cause by very kindly preparing, as opportunity arises, a complete and representative Exhibit in Rubber, Coffee, Tea, Cardamom, Pepper, Fibres, etc., or other products you may be growing.

Also the exhibiting of any machinery used in the preparation and the mode of packing for export, etc., of your particular products would be of greatest interest.

Should it be inconvenient to you to keep the exhibits with you till the Dasara, I shall be glad to receive them now, take care of them and arrange to stage them at the Exhibition.

Anticipating a favorable reply,

I am,

Yours faithfully,

(Sd) G. H. KRUMBIEGEL,

Superintendent.

A New Book on Rubber.

Messrs. Williams and Norgate, Publishers, London, W. C., have just issued "Pará Rubber Cultivation," by Ch. Matthieu. The work comprises about 300 pages large 4to, illustrated, and treats with every problem likely to confront the Planter. The price is 15s. 4d. post-free to any part of the world.

DISTRICT PLANTERS' ASSOCIATIONS.

Shevaroy Planters' Association.

Proceedings of a Quarterly General Meeting of the S. P. A., held at the Victoria Rooms, Yercaud, on 8th March, 1909.

Present.—Messrs. W. I. LECHLER, J. C. LARGE, S. CAMPBELL, W. RAHM, C. RAHM, V. TRAVERS-DRAPE, C. G. LECHLER, B. KIDD, E. LARGE, Rev. Father DANIEL, and CHAS. DICKINS (*Honorary Secretary and Chairman*).

1. The Proceedings of the last Committee Meeting were read and confirmed.

2. *Passing of Accounts*.—Accounts showing a balance in hand of Rs.298 in favour of the Association up to end of February 1909, were passed.

3. READ letter No. 3/09, dated 16th January, from Secretary, U. P. A. S. I., re Labour Recruiting, with a view to ascertaining whether some general arrangement cannot be arrived at to prevent inter-District troubles, and secondly, to suggest that it would be a good thing if some general law could be made to try and stop the trouble referred to.

Proposed by Mr. B. Kidd, and seconded by Mr. C. G. Lechler, "That the U. P. A. S. I. be recommended to approach Government with a view to passing a special general law—making it a criminal offence for any professional recruiter for outside Districts to offer an advance to, or in any manner entice away any cooly already under advance to an Estate."—*Carried unanimously*.

4. READ letter from Mr. R. Gompertz, drawing the attention of the Association to the fact that two more English liquor Retail shops at Yercaud are to be opened.

Resolved.—"That the matter be referred to the Deputy Tahsildar, Yercaud for further information."

5. Proposed by Mr. J. C. Large, and seconded by Mr. C. Rahm, "That Mr. B. Kidd be elected a Member of the Committee in the place of Mr. W. Rahm, who is leaving the country."—*Carried unanimously*.

6. Proceedings terminated with a vote of thanks to the Chairman.

7. READ and recorded Circular No. 8/09, from Secretary, U.P.A.S.I., dated 8th Feb., 1909.

Do.	do.	do.	do.	9/09	do.	do.	8th	do.	do.
Do.	do.	do.	do.	10/09	do.	do.	9th	do.	do.
Do.	do.	do.	do.	11/09	do.	do.	10th	do.	do.
Do.	do.	do.	do.	12/09	do.	do.	13th	do.	do.
Do.	do.	do.	do.	13/09	do.	do.	15th	do.	do.
Do.	do.	do.	do.	14/09	do.	do.	16th	do.	do.
Do.	do.	do.	do.	15/09	do.	do.	19th	do.	do.
Do.	do.	do.	do.	16/09	do.	do.	27th	do.	do.

The following papers were laid on the table :—

Madras Agricultural Calendar.

Planters' Chronicle, January, February, March.

Scientific Report, Bellary Agricultural Station, by Cecil Wood.

Do.	do.	Hagorie	do.	do.	do.
Do.	do.	Nandial	do.	do.	do.
Do.	do.	Sāmalkota	do.	do.	do.
Do.	do.	Koilpatti	do.	do.	H. C. Sampson.

CHAS. DICKINS,

Honorary Secretary and Chairman, S. P. A.

Wynaad Planters' Association.

*Proceedings of a General Meeting held at Meppadi Club,
on 10th March, 1909.*

Present:—Messrs. ATZENWILER, D. MACKENZIE, MACKINLAY, MALCOLM, POWELL, TROLLOPE, WINTERBOTHAM, and C. E. ABBOTT (*Honorary Secretary*).

Visitor.—Mr. Whitton.

1455. *Proceedings of last Meeting* were confirmed.

1456. *Service of Warrants and Labour Matters.*—READ letter from a Member giving list of warrants issued by Magistrate in Nilgiris during 1908, none of which had been served, nor had any notice been given to complainant of the warrants being returned. The Honorary Secretary to write for further particulars and to promise the support of the Association if required.

READ letter from Mr. J. J. McKenzie complaining that Agents from other Districts are crimping coolies in his lines, and stating that he has had one man arrested and handed over to the Gudalur Tahsildar. He asks for the support of the Wynaad Association.

Resolved, that as this offence, if proved, is a very serious one under Act I. of 1903, Section 36, involving a month's imprisonment and a fine of Rs.200, the Meeting hopes that Mr. McKenzie will get adequate redress.

The Meeting thinks that the matter should be, if necessary, referred to the U. P. A. S. I.

1457. *Labour Committee.*—READ letter from Mr. Hamilton, Chairman, U.P.A.S.I., and after considerable discussion it was resolved: "That this Meeting is of opinion that the matter of inter-district troubles is one which the above Committee might leave to be settled separately from the chief point in the Resolution passed at the last Meeting of the U. P. A. S. I., viz., the best means to be adopted to put a stop to the emigration of advanced labourers to foreign countries"; and trusts that the Committee will be able to make a report on this point at an early date with the material they have received.—*Carried unanimously.*

1458. *Stamp Duty on Applications for Release of Prisoners under Act I. of 1903.*—READ letter from Deputy Collector of Wynaad in reply to Honorary Secretary's letter in which it is stated that all such applications are liable to a stamp duty of 8 annas.

1459. *Discount on Cheques payable to Government.*—READ letter from Rao Bahadur C. Gopalan Nair, Deputy Collector, suggesting that in order to save much correspondence the amount of discount charged on all *except Calicut cheques* should be added to the amount when paying income-tax or land-tax. The discount is half per cent., and Members are asked to make a note of this suggestion, as cheques are not legal tender and are only accepted for the convenience of Planters.

1460. *Attesting Contracts in Coimbatore.*—READ letter to Chief Secretary to Government from Honorary Secretary (February 16th), asking Government to allow the Association to nominate a person or persons in Coimbatore to be paid by the Association to attest Coolies' Contracts. READ the Chief Secretary's reply, dated March 2nd, asking for further information as to our reasons for the request. READ Honorary Secretary's reply, dated March 6th, giving our reasons. *Approved.*

1461. *Remission of Taxation.*—READ letter from Mr. Winterbotham, enclosing letter from the Tahsildar, demanding taxes on tea 2 years old.

READ G. O. 794, July 25th, 1904, where it is distinctly stated that land planted with Tea in Malabar-Wynaad will be free of assessment for 3 complete years.

1462. *District Board Member.*—Mr. Abbott stated that he intended to resign this appointment after the Board's March Meeting. It was resolved to nominate Mr. Malcolm to succeed him.

1463. *Membership of Industrial Committee.*—With reference to previous correspondence, it has been suggested by the Deputy Collector of Wynaad that the Association's District Board Member should act.—*Approved.*

1464. *Honorary Secretaryship.*—Mr. Malcolm agreed to take over the duties at the June Meeting.

1465. *Mr. McCarrison, Superintendent of Police.*—The Association learns with regret that Mr. McCarrison is leaving Malabar, and desires to thank him for the interest he has taken in its affairs and the help he has given us, especially in the introduction of Tea Passes.

A vote of thanks to the Chair terminated the Proceedings.

(Signed) B. MALCOLM,
Chairman.

(Signed) C. E. ABBOTT,
Honorary Secretary.

South Travancore Planters' Association.

Minutes of Meeting held on January 16th, 1909, at Quilon.

Present.—Messrs. J. STEWART, P. W. KEIR, J. C. PARKER, E. LORD, L. G. KNIGHT, H. W. HEBERDEN, D. G. CAMERON, J. B. COOK, E. M. EWART. *By proxy:* S. W. SINCLAIR, J. S. VALENTINE. *Visitors.*—A. F. MACDONALD, T. CAMERON and E. CAMERON.

Mr. Stewart took the Chair.

Minutes of the last Meeting were read and passed.

Mr. Cook, in placing the accounts on the table, said:—I have now to place before you the accounts for the past year. They have been audited by your Chairman, and are laid on the table for your inspection. The balance of Rs. 376-12-0 is in the hands of Messrs. Cameron & Co.; one estate has not paid its subscription amounting to Rs. 62-8-0; this will, however, be paid, and thus bring the balance available to Rs. 439-4-0. The most important matter to many of us during the year was the increase of the land-tax on certain estates from 2 annas to 12 annas per acre per annum. At our last Meeting it was decided we should communicate with the other Associations. The North Travancore Association were, however, not interested in it, as they hold their lands under a different tenure. The Central Travancore Association were going to bring the matter forward at one of their Meetings, as some of the estates there would be affected by the new tax, but I have no further information from the Secretary as to what steps were taken. Mr. Cameron brought the question up at the Sri Mullam Assembly, but the Government declined to reconsider the matter.

A Rubber exhibition was held in London during the year and, your Chairman will tell you about this.

After some discussion, the accounts were passed.

The Chairman then addressed the Meeting:—

GENTLEMEN,—There has not been much done during the year. Tea prices have been generally good, and good crops have been obtained; and an ample supply of local labour has been available throughout the year. Rubber has been tapped experimentally on 2 or 3 estates in the district and the results have been eminently satisfactory both as regards quantity and price. We have now about 7,000 acres planted with rubber and in two years' time a large quantity of rubber will be exported from the district.

Rubber Exhibition.—You all know what has been done, and pamphlets have been circulated among the Members, and it only remains for me to mention

that the accounts of expenditure have not yet all been received from London, but it is expected that 1½ annas per acre will cover our share of expenses. All the estates have paid 1 anna subscriptions, except one, and I am sure all the estates will agree to pay the balance of ½ anna when the accounts are finally made up. Mr. Parker was appointed our representative at the Sri Mullam Assembly, and I now call on that gentleman to give us a report of the matters brought forward by him. In conclusion, I wish to record my thanks to Mr. Cook for the work he has done as Honorary Secretary, and to the Members for the consideration they have shewn me in my efforts to carry out the duties of Chairman.

Mr. Parker said: As your representative to the Sri Mullam Assembly, I brought to the notice of the Government, firstly, the serious damage done to a number of your Rubber estates by wild elephants, more especially in the district lying to the north of Arinkow and Tenmali railway line, and suggested that Government should help us in some way, either by granting money to dig and watch elephant pits for the trapping and capturing of the elephants, or by the granting permission to shoot elephants. The Dewan referred the question to the Forest Department and then requested me to meet the Acting Conservator of Forests. This I did, with the result that the Acting Conservator has promised to consider the matter, and see if it is possible to take up the digging of the pits through the Forest Department. Secondly, with regard to roads. I pointed out to Government the urgent necessity of making the cart road from Avanasweeram Station to Pattanapuram, this question having been brought up at the last Sri Mullam. At present this bridge over the Poonalur river was closed for extensive repairs, and was not likely to be open to the public for many months, and that even now there was much delay at this point owing to heavy traffic; but that in the monsoon months, the difficulties would be very much increased, and that by cutting this cart road at once, part of the traffic to the railway would be diverted to Avanasweeram.

I also asked that the cart road from Poonalur Station, *via* Pattanapuram and Koney to Rani be connected with Rangirapillay by cutting a cart road from the Rani river to Manimalai, and some 7 or 8 miles, thus linking up many important roads in the north with the south. At present there was just this one short link required. The Dewan promised that the proposed work should be noted.

Resolved that Mr. Parker's actual expenses, as this Association's delegate to the Sri Mullam, be paid by this Association up to Rs. 50.

Messrs. Stewart and Cook then resigned the Chairmanship and Secretaryship.

Mr. Parker proposed a vote of thanks to the retiring Chairman, Secretary, and Committee.

Election of office-bearers for the year:—

Mr. D. G. Cameron was elected Chairman, Mr. L. G. Knight, Honorary Secretary, and Messrs. Ross, Stewart and Parker as Members of the Committee.

Resolved that the Traffic Manager of the S. I. R. be written to asking if the train service to and from Quilon cannot be improved, as the present service is slow and inconvenient, especially as regards passengers to and from Trivandrum.

Resolved that the allowance to the Secretary for a writer be reduced to Rs. 25 per mensem.

Resolved that the subscription to this Association be reduced to 1 anna for every cultivated acre for 1909.

Resolved that this Association subscribe to the U. P. A. S. I. and a delegate be sent to the Meeting in August, and that the Secretary write to this end.

L. G. KNIGHT,
Honorary Secretary.

INDIAN TEA ASSOCIATION, CALCUTTA.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee, held on the 16th February, 1909.

Correspondence with the Indian Tea Association (London).—Letters dated 22nd and 29th January, 1909, from the Indian Tea Association (London), which had been previously circulated, were ordered to be recorded.

Tea Duty.—In the latter of these letters Sir James Buckingham mentioned that at a meeting of the Standing Joint Committee of India and Ceylon it had been decided to memorialize the Chancellor of the Exchequer against the Tea Duty.

Mosquito Blight.—Mention was made in the Proceedings of 22nd December of a suggestion received from Messrs. Shaw, Wallace & Co., regarding the importance of joint action being taken to deal with Mosquito Blight. And it was then arranged to address the two Branches of the Association and the Dooars Planters' Association asking their opinion as to the possibility of getting some group of gardens in one of the affected districts to combine and take the most thorough measures—especially in the matter of spraying the whole area of their tea—for one or two seasons, the idea being that if this method were found to be effective the Committee would be enabled to recommend a similar policy to all members of the Association with much more confidence.

The Committee have since heard from the Assam Branch that the views of their Sub-Committees on the proposal were being obtained, and from the Dooars Planters' Association that the question would be considered at their next Committee Meeting. And in the Proceedings of the Meeting of the Surma Valley Committee of 19th January the opinion was expressed that sufficient data were not at present available to enable the Committee to recommend the preventive measures proposed; but the suggestion was made that Messrs. Shaw, Wallace & Co. should be asked to try the experiments during the coming season on a group of gardens in their agency, Messrs. Shaw, Wallace & Co., in a letter of 10th February, referred to this suggestion and pointed out that none of their gardens were seriously affected by the Blight and that where it did exist they had taken full precautions to deal with it by spraying, and would continue to do so irrespective of any scheme which the Association might decide to adopt. It was further stated that their gardens had for several years spent large sums annually in destroying Blights, and it was because few of their neighbours had followed their example that they had advocated concerted action.

It was decided to forward a copy of Messrs. Shaw, Wallace & Co.'s letter to the Surma Valley Branch and meantime to await replies from the Assam Branch and the Dooars Planters' Association on the matter. Messrs. Shaw, Wallace & Co. were to be informed accordingly.

Scientific Department.—(a) *Entomological Department.*—In a letter of 2nd February, Mr. C. B. Antram, the Entomologist of the Scientific Department, submitted his programme for the present year. It embraced investigations of the yearly stages and life history of the Tea "Green Fly," enquiries into the effect of different insecticides on "Red Spider" and other "Mite" insects, and further experiments in regard to "Mosquito" and "Thrips" Blights. It was decided to leave this suggested programme to the consideration of the new Committee.

In a further letter of 7th February, Mr. Antram referred to a suggestion he had made to Mr. Cresswell, Manager of Rampore Tea Estate, on which investigations were made last season in regard to Mosquito Blight. This was that he should carry out spraying with soap solution immediately after the completion of pruning; and Mr. Cresswell stated that if the Association would supply the necessaries, and pay for them he would be glad to consent.

Mr. Antram mentioned that Mr. Cresswell had a quantity of soap in his possession which was the property of the Association, and asked that sanction might be given to his using it in the way suggested. It was agreed to give the sanction asked.

- (b) *Heeleaka Experimental Station*.—With a letter of 5th February, Dr. Hope sent a report on the work at Heeleaka during the preceding month. This is printed with these Proceedings for general information.

The opinion was expressed that the time had come when some entertaining allowance should be made to the Assistant Scientific Officer in view of the increasing number of visitors to the Heeleaka Experimental Station; this question had been under consideration some time ago, but no definite decision was then arrived at. It was now, however, decided to ask the opinion of the Heeleaka Advisory Committee as to whether a grant of Rs.50 to Rs.100 per month would be a suitable allowance.

Anti-Tea-Duty League.—The Secretary of the United Planters' Association of Southern India has sent the Association a number of copies of the *Planters' Chronicle* containing Minutes of a Meeting held between representatives of the Tea Industry in South India and Sir Roper Lethbridge regarding the Ceylon Tea Duty and the work of the Anti-Tea-Duty League and he asked that the copies should be distributed among members of the Association. The Committee did not think that this step was necessary, as the Proceedings have been fully reported in the Press of Northern India and will have been already seen by all persons interested in these subjects. But if any members should desire copies of the *Chronicle* they may be had on application to the Secretary.

Sisal Hemp.—A letter of 12th February from Dr. H. H. Mann was before the Committee. It referred to his pamphlet on Sisal Hemp Culture in the Indian Tea districts, which is now out of print, and mentioned that he had been asked by the Inspector-General of Agriculture to publish a new edition: Dr. Mann accordingly asked whether the Association would sanction his bringing out another edition and would lend him the blocks for that purpose. It was agreed to accede to Dr. Mann's request.

HEELEAKA EXPERIMENTAL STATION.

Extract from Report No. 5, dated Korea-Kuthia, the 5th February, 1909.

Garden Work—Pruning.—The cleaning out of No. 8B is nearly finished and the light pruning of the Manurial plots is being continued. It was decided at the Meeting of the Advisory Committee held in November last to abandon the present pruning experiments which have been carried on for the last four years. These plots will be used therefore for other experimental purposes and are now being cut back. Mr. Hutchinson has instructed me to make an experiment in early and late pruning, and No. 2 plot of this series is being used for the purpose of comparing January and March pruning.

Manuring.—The second application of oil-cake has been given to the plot which has been devoted to a study of the action of oil-cake as applied during the cold weather. In order to make the conditions of this and its companion plot (which is to receive divided applications of oil-cake during the rains) strictly comparable, it has been found necessary to apply the oil-cake with the light hoe, and therefore the manuring was followed immediately by a light hoe and the companion plot was light hoed at the same time. Instead, therefore, of the usual light and deep hoes these plots will receive six light hoes during the season.

Clearance.—The three-year-old tea has all been cut down, with the exception of one quarter of each *jat*, which is to be cut down in May.

(Sd.) G. D. HOPE.

Extracts from Abstract of the Proceedings of the first Meeting, on 23rd February, 1909, of the General Committee elected for the year 1909-1910.

Election of Chairman and Vice-Chairman.—Mr. Williamson proposed and Mr. English seconded, that Mr. McMorran should be appointed Chairman and Mr. Pickford Vice-Chairman of the Association for the ensuing year. The proposal was unanimously carried, and Mr. McMorran and Mr. Pickford accepted office.

Scientific Department—(a) *Department Sub-Committee.*—It was unanimously agreed that the Scientific Department Sub-Committee should consist of the Chairman, Vice-Chairman and Mr. Williamson.

(b) *Mr. C. M. Hutchinson.*—The Committee had before them a telegram from the London Association of 17th February which mentioned that Mr. C. M. Hutchinson, the Association's Chief Scientific Officer, had been examined by Sir Havelock Charles. His report was not favourable, indicating that he could not guarantee that Mr. Hutchinson would retain his health if he returned to India, and stating that in any case an extension of his present leave to October would be necessary. This was noted with regret, and under the circumstances the Committee, after fully considering the matter, came to the conclusion that they would not be justified, either in Mr. Hutchinson's interest or in that of the Department, in asking him to return. The London Association were to be informed accordingly by cable in order that they might communicate with Mr. Hutchinson. As to future arrangements, it was agreed to appoint Dr. Hope as Chief Scientific Officer for a year on probation and to engage an Assistant Officer from England to take charge of the Heeleaka Experimental Station.

(c) *Application for leave from Mr. C. B. Antram.*—Reference was made in the Proceedings of a Meeting of the Committee of 2nd February to an application that had been received from Mr. C. B. Antram for six months' leave during the present year. The consideration of the request was then postponed. It was now before the Committee again and they were of opinion, in view of the change in the Department staff mentioned in the preceding para. that they could not sanction the leave. They expressed their willingness, however, to allow him three weeks' leave to enable him to go on a short sea trip.

(d) *"Mosquito Blight" Pamphlet.*—In a letter of 16th February, Mr. Antram wrote that he had been asked by Mr. E. E. Green, Government Entomologist, Ceylon, for permission from him and from the Association to reprint, for the information of Ceylon Planters, part of the pamphlet recently issued dealing with the Tea Mosquito. Mr. Green mentioned that the pamphlet effectually cleared up a number of doubtful points and would be of great value to all economic entomologists; he considered it to be an excellent piece of work and stated that if it could be re-printed in part as he requested, it would be greatly appreciated by Ceylon Planters.

The Committee unanimously agreed to give the necessary sanction.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee, held on 9th March, 1909.

Scientific Department—(a) *Dr. G. D. Hope.*—It has been arranged that Dr. G. D. Hope should do some touring in Assam and Cachar during April.

(b) *Entomological Department.*—Two letters of 27th February and 6th March, from Mr. C. B. Antram, were considered. These dealt with experiments proposed by him in connection with Mosquito Blight, and gave details of the arrangements made for spraying at three estates.

PLANTERS' ASSOCIATION OF CEYLON. THE EIGHTY-EIGHTH GENERAL COMMITTEE MEETING.

OFFICIAL MINUTES.

Extracts from Minutes of Proceedings of a Meeting of the Committee of the Planters' Association of Ceylon, held at the Victoria Commemoration Buildings, Kandy, on Friday, 12th March, 1909, at 2-30 p.m.

Present.—Mr. E. Rosling (Chairman, Planters' Association of Ceylon), Hon'ble Mr. Edgar Turner (Kandy), Messrs. James Westland (Kandy), William Gibson (Haputale), A. J. Austin-Dickson (Kandy), F. N. Mackie (Colombo) C. C. Durrant (Chairman, Haputale P. A.), R. W. Carmichael (Hewaheta), G. C. Bliss (Dimbula), C. W. R. Tyler (Chairman, Pussellawa P. A.), E. M. Wyatt (Dikoya), E. M. Windus (Hon. Secretary, Matale P. A.), W. Lyall (Chairman, Matale P. A.), M. L. Wilkins (Chairman, K. K. and Panwila P. A.), H. Storey (Kandy), Hodgson Bell (Matale), J. B. Coles (Kandy), H. St. G. Bowle-Evans (Chairman, Dimbula P. A.), W. L. Strachan (Dimbula), J. G. Cruickshank (Chairman, Kandy Districts P. A.), Wm. Sinclair (Chairman, Rangala P. A.), C. S. Morris (Kandy), A. D. Donald (K. K. and Panwila), Joseph Fraser (Kandy) W. D. Gibbon (Kandy), G. H. Golledge (Kalutara), Norman Rowsell (Ceylon Labour Commissioner, Trincomopoly), R. Anderson (Kandy Districts), P. C. MacMahon (Kandy), Alfred H. Kerr (Hon. Secretary, Rangala P. A.), P. R. Shand (Kandy), J. B. Tennant (Matale), T. Gidden (Dikoya), H. A. Beachcroft (Kandy), Thos. Smith (Dolosbagie and Yakdessa), D. J. Blyth (Pussellawa), George Romilly (Representative, United Planters' Association of Southern India), Alex. Wardrop (Secretary, Planters' Association of Ceylon).—37 members and one visitor.

Representative of U. P. A. S. I.

SPEECH BY MR. ROMILLY.

Mr. Geo. Romilly, who was introduced to the Committee by the Chairman was cordially received, and, being invited to address the Meeting, said:—Gentlemen, in the first place I have to thank you on behalf of the United Planters' Association of Southern India for your ready acquiescence in our suggestion that we should send a representative to exchange views with you on matters of common interest, and, secondly, on my own behalf I must thank the Chairman for the kind welcome he gave me through Mr. Wardrop on my arrival at Colombo. I believe my visit is associated in the minds of all of you with a desire to get you to consent to the Government of Ceylon reducing or withdrawing the Tea duty as regards India Tea. But I can assure you that, whatever the rank and file of our various Tea Associations may think, the leaders of our Central Association quite realize that it is useless, in view of the opinions so strongly expressed on this side of the water, to press the matter any more at the present moment. However, I think it is hoped that I may, by conversation and interchange of views with you, find out exactly what the feeling here is. From what I have already gathered I understand that these are three schools of thought:—(1) those who would like to see Colombo a free port and so increase her trade all round; (2) those who would not object to preference for Indian tea, but strongly object to letting in China and Java; (3) and, lastly, those who want to keep it a jealously-closed market, so that your unapproachable Ceylon tea may be above suspicion of any meaner blend. I don't suppose that it would be possible to gauge the strength of these different schools until an actual proposal was made to alter the present state of affairs. So long as it is an academic discussion, and not a question of practical politics, I think opinions are aired benevolently which might be withdrawn if the individual pocket is to be affected. Of course, I am quite aware that you Ceylon planters now hold the Australian trade, you are the men in possession, and naturally you resent any attempt at our encroachment on what you have already secured for yourselves. But I don't

feel at all sure that the Australian trade is in the eye of the Indian planters at all. You may ask me, what then do we want? If you ask *me*, I believe that it is entirely a matter of sentiment. Long ago the anomaly of a prohibitive tax on the import of Indian tea to Ceylon, was called attention to. In 1895 I was on a visit to Ceylon, and as I was then the South Indian Member of Council, I was asked to have an interview with your Governor, Sir Arthur Havelock, and ask him if the tax could be removed. He said that, as far as the Government was concerned, there was no objection, because it brought in no revenue, but that the Planters' Association must be consulted. I came back with this answer, and everyone was quite pleased. Then came a curt refusal, the terms of which I forget, but they were probably harmless, if I could remember them. This put our backs up, and we have fought the matter ever since, but now we are forgetting where we are. I believe myself, and I dare say some of you share my belief, that in another two years at the outside a Parliament will have been returned pledged to Fiscal reform and Preferential Tariffs. Tea will naturally be among the articles to be dealt with, and that will be the time when *India and Ceylon should be united in their views and working together for one common aim*. Therefore, I think that the more we can exchange views and get into closer touch one with the other on all subjects the better it will be for both of us. I regret that there has been some loose talk of retaliation on our side, due, I think, to the fact that we were hurt in our self-conceit, and the somewhat contemptuous manner in which our approaches about the import tax were rejected. All that sort of thing is a great mistake, and, gentlemen, the only reason why I am here is to remove all traces of any vindictive feeling and to try and prepare the way for cordial relations in future.—(*Applause*). In the discussion which ensued Messrs. Beachcroft, Westland, Turner, Coles and Wardorp took part, representing the three schools of thought alluded to by Mr. Romilly. It was pointed out that the import tax was in no way protective as it brought in no revenue and even if removed there was no probability of Indian tea going into consumption in Ceylon. Neither could the tax be called a prohibitive one, seeing that over 3,300,000 lbs. of South Indian teas were sold at the public auctions in Colombo during 1908. In summing up the discussion, the Chairman firstly reciprocated on behalf of the Ceylon Planters' Association the desire, expressed by Mr. Romilly, as the representative of the United Planters' Association of Southern India, for closer and cordial relations between the two bodies by means of the interchange of views on matters of mutual interest, and, secondly, he pointed out that, although the position of the Ceylon Tea producer as regards the import duty might be economically unsound, very few of them were unselfish enough to advocate anything which might jeopardise the present commanding position Ceylon occupied in the important Australian market. A hearty vote of thanks to Mr. Romilly for his visit and Address was carried by acclamation.

Coast Agency.

Intimated that the Labour Commissioner's report and statement of accounts for 1908 would be circulated as soon as possible.

Mr. Rowsell, who was present, replied to various questions from Members of the Committee, and intimated that the agencies at Palghat and Coimbatore had been closed, which he hoped would remove any cause for friction with the South Indian Planters who recruit in those parts.

Re RED ENSIGN COFFEE.

We are glad to learn that the United Coffee Supply Company, Limited, have been awarded a Silver Medal at the recent Central Provinces and Berar Exhibition held at Nagpur, for the purity of their Red Ensign Coffee, and its general excellence, in addition to the Gold and Silver Medals already obtained previously, and this Coffee we can thoroughly recommend to our readers, being grown on the Nilgiri hills, one of the finest Coffee producing districts in the world.

TEA.

The British Tea Duty.

MEMORIAL OF THE LONDON ASSOCIATIONS.

Indian Tea Association (London), 21, Mincing Lane, E. C.

Ceylon Association in London, 61 and 62, Gracechurch Street, E. C.,
February 1909.

The Right Honorable DAVID LLOYD-GEORGE, M. P., Chancellor of the Exchequer.

SIR,—We, the undersigned, representing producers of Tea in India and Ceylon, have the honour to address you on the subject of the import duty on tea. We have periodically memorialized the several Chancellors of the Exchequer on this subject since the year 1903, and you are probably in possession of the arguments with which we have supported our contention that a high rate of import duty is prejudicial both to the interest of the producer and consumer of tea: the tax falling upon the very poorest people, particularly in Ireland and in the congested districts of the large cities and towns in this country.

Tea has become a necessity to the people, and has done much to encourage temperance in this country. This was admitted by the Right Honorable H. H. Asquith, the Prime Minister, in the discussion on the Finance Bill on May 29th, 1906, when he stated that "Tea was a necessary of life and a Tax upon it was injurious to producer and consumer."

Other prejudicial effects of the present unduly high rate of duty to which we would draw attention are that, while, on the one hand, owing to the large amount of capital required for duty payments, it tends to create a monopoly in the distributing section of the trade; on the other it forces the large bulk of the working class consumers to purchase only the very commonest varieties of Tea.

We attach to this petition a table showing the prejudicial effect upon consumption of the higher duties imposed in the early years of the century when the duty was increased from 4*d.* per lb. to 6*d.* and 8*d.* per lb. successively.

It will be seen that increased taxation completely arrested the steady annual increase in consumption which had previously prevailed for years, while, after the remission of 2*d.* and 1*d.* in 1905 and 1906 respectively, deliveries at once responded, and consumption increased by no less than eleven million lbs. in 1906 and nearly four millions in 1907.

We desire to point out, Sir, that many millions of British capital are invested in growing and handling tea. Its production provides employment for large numbers of the native populations of India and Ceylon, and entails a large annual expenditure on machinery, implements of agriculture, and building material, mostly obtained and paid for in this country. Upwards of 400,000 tons of British-grown tea are carried annually in British ships, the warehousing and distribution of which forms an important industry in this country.

Ninety per cent. of the tea consumed in the United Kingdom is British-grown, while the competing beverages, coffee and cocoa, are mostly grown in foreign countries, and they do not bear the same ratio of taxation.

We earnestly believe that a reduction of the present rate of import duty would be highly beneficial to the people of this country in their capacities of producers and consumers, more especially to the poorer sections of the population, and we pray that, in framing this year's Budget, the import duty at present in force will receive from you the favourable consideration which we claim for it.

The following are the figures for the past eight years:—

		Total consumption lbs.	Rate per head.	Rate of Duty.
1901	...	255,873,082	6'16	6d.
1902	.	254,440,188	6'03	6d.
1903	...	255,363,953	6'03	6d.
1904	...	256,660,268	5'99	8d.
1905	...	259,090,380	5'99	6d.
1906	...	270,137,953	6'18	5d.
1907	...	273,995,929	6'21	5d.
1908	...	275,415,139	6'18	5d.

The Burial of Prunings.

For some time past there has been considerable discussion in Ceylon over the question of the merits or demerits of the system of burying tea prunings —*i. e.*, using them as fertilizers.

Mr. Petch, the Government Mycologist, who is a staunch opponent of this system, explained his position early last month. He wrote *inter alia*:—

Of course, the whole question is a matter of balancing losses and gains and to me the gains appear to have been over-estimated. But I have no prejudice in the matter, beyond a prejudice against unnecessary, *i.e.* avoidable, diseases. Root diseases of tea were first brought to notice in 1901, and I have now 109 tea estates on the root disease list. That is, 109 estates have sent in specimens for report. Others have been seen when on tour, and many estates do not bring their diseases to Peradeniya.

The advantages of burying prunings are:—

- (1) A gain in humus.
- (2) A certain amount of cultivation.
- (3) A gain in manures.

I consider that too much has been made of the third point; and that most of the advantage is due to the second; and that this can be obtained by less dangerous methods. Destruction of pests by burying seems to me very doubtful, unless they are caterpillars and get squashed. Certainly no fungus is killed by burying it.

As regards the disadvantages, the following points are beyond doubt:—

1. The conversion of prunings into humus is brought about by the action of fungi. These fungi are for the most part saprophytic, *i.e.*, they live on dead substances.

2. A saprophyte can be converted into a parasite on the living tea bush if it is habituated to tea prunings.

3. All our tea root disease fungi are initially saprophytes. Even the tea leaf fungus, Gray Blight, lives far more vigorously as saprophyte than as a parasite.

4. Our newest tea root disease is caused by a fungus which lives on prunings, either buried or on the surface: like the others, it is an educated saprophyte.

As practical results are preferred, I quote the following from a recent letter about the newest tea root disease:—

"I am sending you some dead tea stumps and roots. For the past nine years each field, where possible, has had its prunings buried at the time of pruning, which would be every second year. One hole to every four trees every other time. An application of Basic slag and Potash is added to each hole. The following year the field is treated with artificial manure. In the particular field from which these roots are taken, there is a very considerable number of deaths."

RUBBER.

Rubber in East Africa.

INTERESTING INFORMATION.

The *Ceylon Observer* quotes as follows from a business letter of enquiry received:—

Blantyre, Feb. 12.— You will be interested to know that Ceará Rubber is being widely planted here and this Company, the Blantyre and East Africa, Ltd., will have

NEARLY 1,500 ACRES UNDER CULTIVATION

in this product by the end for March. Some of this acreage is now 4½ years old and the trees range in age down to those planted out in the current season. Ceará does well here. We are anxious to learn the best system of tapping; the system spoken of by Messrs. Lee, Hedges & Co. (as shown in your journal) might suit Ceylon with its moist climate but might not suit this country, which has a wet season for say five months and a long dry season of seven months. Will the system apply equally well to a country which has continental climate? Briefly our conditions are as follows:—

Rains commence November and end March-April. Light showers in May gradually getting colder and dryer. June cold, sometimes misty but on the whole dry. Atmosphere gets drier and hotter till November when the shade temperature occasionally reaches 95. Rains break again in November. Rubber is leafless as a rule from September to November. Rubber is tapped runs in wet months, but only older trees run in the dry months and that not so freely. If outer bark is removed and inner bark pricked, in dry season, rubber quickly coagulates. I may say that the rubber is excellent and our only difficulty is the tapping, *i.e.*, what method will give the best results with least danger to the tree.

Tapping with patent knives by making grooves seems to us not so suitable. The outer bark would require to be removed and in the dry season, as has been found in India, this is apt to harm the tree—as towards the end of the dry season the tree is leafless, the atmosphere is dry, and the inner bark gets dried up; the sun plays on it, and it is apt to be a severe tax on the tree. Moreover it is difficult to get the rubber to run freely except in the rains.

Would the new system suit the dry northern districts of Ceylon, where Dr. Willis is at present experimenting with Ceará? We have four-and-a-half year old trees running from 14 inches to 20 inches in girth at three feet from the ground.

Rubber in Malaya in 1908.

ACREAGE AND PROSPECTS.

Mr. Carruthers, in conversation with a Ceylon journalist recently, said that he is writing his Administration Report for 1908 on his way home: according to the returns he has obtained, there were, on December 31st last 37,000,000 rubber trees growing in the Malaya Peninsula, including the new territory, Kelantan, with upwards of 2,000 acres already in rubber. 60,000 acres were opened in 1908—40,000 were in the Federated Malay States—the total being rather more than in 1907.

The yield per tree for 1908 worked out at one ounce more than in 1907, *viz.*, 1 lb. 14 oz. per tree. The average increase of girth per annum, Mr. Carruthers put (at a guess) at rather less than four inches, because rubber growing in lalang came along very slowly. He was glad to say green manuring was now being widely and successfully adopted, though in one or two instances strange orders had come out from home to cut out passion flower, &c., though successfully established.

It is interesting to state that, before leaving Kuala Lumpur, Mr. Carruthers applied for 180 acres of lalang in Perak State to make practical tests as an estate proprietor of the methods he advocates. The terms are the usual ones for lalang land—one cent. per acre per annum for the first seven years and one dollar per acre per annum afterwards. The place will be looked after by Mr. Carruthers' cousin, who is on an estate about $1\frac{1}{4}$ mile away. Mr. Carruthers intends to give one spraying of arsenite of soda and then turn off and immediately plant three varieties of useful cover to complete the killing out of lalang, viz., passion flower *abrus precatorious* (distinguished by its well-known red seed with black top); and a new vigna which Mr. Carruthers came across just before leaving and which appeared to promise well.

Mr. Carruthers considers the rubber industry to be of a permanent character, and, although after lalang the rubber is usually a little slower in growth for the first few years, he did not mind whether it took eight years instead of six in coming to the remunerative stage, considering the small cost of the planting.

The Next Rubber Exhibition.

Mr. Staines Manders now proposes that the next International Exhibition shall be held in London in 1911, and it is to be hoped that by that date, the Governments concerned and planters generally will see their way to give it their support. It is well known that Mr. Manders and Colonel Bosworth wished to have the Exhibition in 1910, but, in deference to the expressed wishes of the Ceylon Association and Rubber Growers' Associations, who were both of opinion that 1910 was too soon, the date has been altered.

F. M. S. Rubber Export.

FIGURES FOR JANUARY.

The monthly comparative statement of cultivated rubber exported from the Federated Malay States during the years 1909 and 1908 has been issued from the office of the Commissioner of Trade and Customs.

The following figures of the export for January in 1909 and 1908 are given:—

			Exported during Jan., 1909.	Export during similar period of previous year.
			lb.	lb.
Perak	...	...	52,727	36,646
Selangor	...	...	202,889	134,781
Negri Sembilan	...	...	89,977	71,136
Total			345,593	242,563

It will be seen from the above that Perak had an increased output of 16,081 lb. Selangor of 68,108 lb. and Negri Sembilan of 18,841 lb. Of the rubber exported from Selangor during January, however, 927 lb. were produced in Perak, and 13,756 lb. in Negri Sembilan. The total increase for the month is 103,030 lb.—*Malay Mail*, Feb. 25.

Cost of Production.

Several estates in Ceylon are now producing Rubber at a cost of about 60 cents (or under 10d.) per lb., including cost of tapping knives, upkeep, supervision, &c., and two estates are said to work at 9½d. or very little more.

OFFICIAL PAPERS.

Rubber Cultivation in Cochin.

PROCEEDINGS OF THE DIWAN OF COCHIN.

Revenue Department.

(SEPARATE REVENUE).

Order dated 1st March, 1909, Ref. on C. No. 2178 of 1884.

Leases of forest lands for coffee cultivation were granted for the first time in the Cochin State in 1039 M. E. (1863-64) during the administration of Diwan Mr. Shanguni Menon, in accordance with a set of rules promulgated by him for the purpose in April 1862. Regarding these leases, Mr. Shanguni Menon observed as follows in his Administration Report for 1039:—

"In a few years more the land revenue will receive an increase from a perfectly new source, *viz.*, the cultivation of coffee for which the forest lands of this country are well adapted. More than 7,000 acres of land have already been taken up for this purpose. These alone will yield a revenue of upwards of Rs.10,000, but applications have been received for several thousands of acres more, and the tax on these lands, when leased out, combined with the five per cent. duty payable on the produce, will increase considerably the revenue of the State. The indirect advantages, too, resulting from the outlay of the large amount of capital, required for the cultivation of these lands, must not be lost sight of."

2. Up to the end of 1065 M. E., 19 leases covering an aggregate extent of 8,502 acres, were granted for coffee cultivation on the Nelliampathies. Several applications for fresh grants were received subsequently, but in 1894 it was proposed to amend the rules with a view to make provision for the sale of the leases by auction and for their grant to the highest bidder. The proposed alterations were under discussion and correspondence till 1901; and to the several applications received in the meantime, replies were given to the effect that no fresh leases could be granted till the rules were revised. In November, 1901, the then Conservator of Forests, Mr. Alwar Chetty, reporting on the proposed amendments, remarked as follows:—

"Taking into consideration the areas already under coffee, it is in my opinion highly injudicious to allow any further clearing of forest lands for coffee cultivation. Financially, it will be more profitable to the Sirkar to retain the areas as forest than to allow coffee cultivation."

The Durbar agreed with the Conservator in the above view and all applications till then received were rejected. The correspondence from 1894 to 1901 on the subject has been quoted *in extenso* in Diwan's Proceedings, Land Revenue Branch, dated 19th July, 1900, and 11th December, 1901, Ref. on C. No. 1775 of 1897.

3. Soon after this, an application was received from one Mr. J. R. Hunter, in January, 1902, for the lease of 500 acres of forest land in the valley of the Chalakudi River for Rubber plantation. The following quotation from his application describes the purpose for which the lease was applied for:—

"I propose adopting a system of cultivation that will strongly resemble the conditions under which the Pará Rubber tree thrives in its natural habitat in the Amazon Valley of South America, that is, amidst the indigenous jungle trees, on the banks of the rivers, where the plants spring up spontaneously from seeds deposited during floods. In the valleys of the principal rivers of the Malabar Coast, the soil and climatic conditions closely resemble that of the Amazon Valley, and, I think, ought to grow Pará Rubber well, if gone about in an intelligent and enterprising manner. I have experience of Rubber-growing in Ceylon, where the climate is similar to that of Cochin, but the soil generally inferior, and for this reason, I have

elected to experiment in these parts in preference to Ceylon. I went up the valley of the Chalakudi River, a little beyond Itchapara Estate, and saw some jungle land that would be suitable for Rubber cultivation. I believe there is a large acreage of such land higher up the river towards the waterfall. In preparing for Rubber planting, it would be necessary to clear away the undergrowth and a few of the smaller trees where too thick and dense; and in other parts where trees were too thin, I would have to plant some. Rubber trees would be planted 20 by 20 feet, or, say, 100 to the acre, and I estimate one shade tree necessary for every two rubber trees, or about 50 to the acre. All timber trees on the land, either original or planted, would be the property of Government, I only having claim to them so long as I required them for shade for the Rubber. These trees would benefit very much by the cultivation extended to the Rubber, and would be valuable to Government when not required for Rubber. Before starting operations all the large and valuable trees could be removed, leaving only the immature trees to grow along with the Rubber. Under such favourable conditions of cultivation, by which the reserve forest would be improved, and considering that Rubber planting systematically is yet experimental in these parts, I trust Government will encourage such an enterprise by giving the land at a nominal rent during the first eight years, until the trees come into bearing, after which time a rent of Re.1-8 to Rs.2 would not be felt. Under above conditions, I should like to apply for (500) five hundred acres of good jungle land at low elevation, on the banks of the Chalakudi River, above Itchapara estate, at a nominal rent of 4 annas per acre per annum, for first eight years, to be then raised to Re.1-8 or Rs.2 per acre; also to have the option of taking up a further five hundred acres under same conditions during the next four years, if the first taken up acreage proved a success."

4. After a good deal of correspondence, which continued for three years and concerned itself mostly as to the locality to be selected, a lease was granted in the name of Mr. Nicoll, in January, 1905, in the Palapilly forests for 500 acres for Rubber cultivation on the following conditions:—

1. The lessee shall, during the first eight years of the occupation of the land, pay an annual rent of 8 annas per acre and an enhanced rent of Rs.2 per acre from the ninth year forward whether the Rubber trees begin to yield or not.
2. The lessee can raise catch-crops if he likes within the portion of land assigned to him, provided he is prepared to pay an extra Re.1-8 per acre for the catch-crops raised.
3. Such kinds of catch-crops as are in the opinion of the Conservator liable to render the land permanently unfit for growing valuable timber trees, shall not be raised by the lessee.

This is the plantation now known as the Palapilly Rubber Estate.

5. Subsequently, *i.e.*, in 1906, when Mr. Hunter applied again for five hundred acres of land close to the tract granted to Mr. Nicoll, Mr. Alwar Chetty reported that "he was not in favour of granting any further area for Rubber cultivation" and that he wished "to watch the result of Mr. Nicoll's work before recommending further disafforestation in favour of an abortive attempt at Rubber cultivation." Mr. Hunter's second application was accordingly refused.

6. In January, 1906, a lease of 600 and odd acres of land in the Palapilly forests was granted to Mr. Windle on behalf of a private Syndicate for Rubber cultivation, on conditions similar to those on which the lease to Mr. Nicoll was granted in 1905. This is known as the Puthukad estate.

7. In March, 1906, the Conservator, Mr. Alwar Chetty, recommended that 689 acres of land in Vellanikara and Madakathara villages of the Trichur Taluk, adjoining the Paravattani forests, be leased to Messrs. Campbell,

Gompertz and Windle (as representing the Cochin Rubber Company, Limited), on an annual rental of 4 annas per acre for seven years from 1081, and at the rate of per acre subsequently, *viz.*, from 1088 M. E. In accepting the Conservator's recommendation, the then Diwan, Mr. Pattabhirama Rau, remarked that "in view of the experimental stage at which Rubber cultivation then was in the country, no more applications for the grant of land for the purpose need be entertained for the present." Subsequently the grant to the Cochin Rubber Company was extended to 1,000 acres in July, 1907. The important conditions of that lease were the following:—

- (a) The lessees shall, for the first seven years, pay an assessment of 4 annas per acre per annum and from the eighth year inclusive therefrom, an assessment of Re.1-8 per acre per annum, such payment to be made before the end of Chingom in every year.
- (b) The said assessment shall be payable whether the Rubber trees shall have begun to yield or not.
- (c) The lessees shall be at liberty to raise such kinds of catch-crops as shall not, in the opinion of the Conservator of Forests, be likely to render the land so cultivated permanently unfit for the growth of valuable timber trees, provided that in such case the lessees shall pay an extra assessment of Re.1-8 on each acre so cultivated in each year.
- (d) In event of the lessees raising any catch-crops, which, in the opinion of the Conservator, may be likely to render the lands so cultivated permanently unfit for the growth of valuable timber trees, the said lessees shall be liable to pay a fine of Rs.5 for every acre so cultivated, and the crops so grown shall, at the option of the Conservator, be destroyed.
- (e) The lessees shall not be entitled to any minerals or allowed to quarry laterite, ground granite, &c., free of seigniorage, except for *bona fide* estate buildings.
- (f) No fire (other than may be for ordinary use in dwellings or factories upon the premises) shall be set to within the area assigned, unless a clear week's notice thereof shall have been given to the Conservator and his consent shall have been obtained.
- (g) In the event of the lessees making default in the observance or fulfilment of any of the terms and conditions herein contained and failing to remedy such default for six months after notice so to do shall have been given to them by the Diwan, the lessor shall be at liberty at any time thereafter at his sole option to determine the lease and the lessees shall forthwith vacate the land and, notwithstanding such determination of the lease, be liable for all loss which the lessor may sustain by reason of such default.
- (h) All payments to be made by the lessees shall be recoverable at the option of the lessor in like manner as may be provided for the recovery of land revenue by the Sirkar.

This plantation is called the Vellanikara estate.

8. It will be observed from the above review of the previous correspondence on the subject that leases of forest lands for Coffee or Rubber cultivation have hitherto been granted more or less as an experimental measure and that no definite policy has been laid down to regulate the grant of such leases. Whereas, in some cases, applications have been refused, in others they were granted, and no consistent policy has hitherto been followed in disposing of the several applications that were received from time to time. Before formulating a definite policy on the subject, it was necessary, however, to watch the progress of Rubber cultivation started by the Planters in the Palapilly, Puthukad and Vellanikara estates and also to ascertain whether the forest lands of the State are well adapted for the successful cultivation of Rubber. Mr. Cecil Hall, one of the most experienced Planters of the State, was deputed to inspect forest lands in the Sholayar Valley, and he made a report as to the excellent facilities for Rubber cultivation in these parts. The

Forest Working Plan Officer, Mr. Govinda Menon, also reported that timber extraction would be prohibitive in this locality. In regard to the experiments already made, careful enquiries have now been made and it is reported that the results achieved so far have been eminently satisfactory and Rubber is growing remarkably well in all the three estates. In a pamphlet issued by the Planters of Southern India on Rubber cultivation in Travancore and Cochin, reference has been made to Cochin rubber in the following terms :—

" Rubber was first planted on any scale in 1905, when Mr. K. E. Nicoll obtained a grant of forest land at Palapilly, behind the Government Teak Plantation. This was a well situated block, at the foot of the hills, with the Chemoni River running through the centre. Some forty acres were opened in 1905, and later on, in the same year, Mr. E. G. Windle, on behalf of a Syndicate, took up an adjoining block of forest now called Puthukad. In 1906, there were some 300 acres opened on each place, and in 1907 the balance of the land was opened, Puthukad being in all some 650 acres, and Palapilly nearly 500, the two places making a fine sheet of over 1,100 acres of Rubber. The conditions here are very favourable, the elevation being almost sea level, rainfall about 150 inches, and surrounding hills sheltering the basin from wind. As a result, growth has been remarkably fine and, according to those who have seen both, it may challenge comparison with fine Straits growth. The plantations are some eight miles by cart road from the Puthukad station on the Cochin Railway, and about 20 miles from the Coast. In 1906 also a grant of Government forest, six miles from Trichur Railway station, and lying on the main road from Trichur to Palghat, was obtained by Messrs. E. G. Windle and R. E. Campbell Gompertz, who opened 400 acres, and subsequently disposed of the block to the Cochin Rubber Company, Ltd., of Colombo, in whose name the Government title was issued. This consists of 1,000 acres in all, of which 400 acres were opened in 1906, 200 in 1907, and 200 in 1908, 200 being forest. Elevation and rainfall are much the same as at Puthukad and Palapilly, and growth has been excellent. There are, therefore, at present some 1,900 acres of Pará opened in Cochin. Many other applications for land have been made, but were refused by the Durbar (Cochin Government) on the ground that it had to be seen whether Rubber would be successful. There seems no room to doubt this now, and it is to be hoped that further land may be available to the public for Tea as well as Rubber. The forest slopes, which are now being tapped by the tramway might reasonably be surveyed with the view of opening suitable parts ; there are probably 50 to 100,000 acres which would grow one or other of the above products without unduly interfering with forest resources."

The last observation is fully borne out by the inspection report of Mr. Cecil Hall, who inspected the low lying hills and the valleys adjacent to the tramway and the rivers. His preliminary report contains the following remarks :—

" I found a very large area of forest land eminently suitable for the cultivation and growth of Pará Rubber (*Hevea Brasiliensis*) as well as for Tea, and also a good deal of land about 2,000 feet elevation which would grow fine Coffee and Tea, but which is situated at too high an elevation for Rubber cultivation. I found most excellent and suitable land for Rubber both sides of the forest tramway from Parambikulam to where the tramway enters the low country and throughout the entire length, on both sides of the Sholayar River throughout its entire length and also on the both sides of the Parambikulam River from Orukombankutty where this river leaves the tramway and to where the river empties itself into the low country below the Adirapilly water-falls. Branching

off from the tramway and the two rivers, there are several large valleys very sheltered and ideal spots from a Planter's point of view."

9. Having regard to the enquiries made from time to time and the successful experiments on Rubber cultivation in the State, His Highness' Government have now resolved to grant further leases of forest lands for the cultivation of Rubber. The enquiries as to forest requirements show that lands to the extent of 5,500 acres in the valleys of Chemmeni and Muppilli Rivers in the Palapilly forests, almost adjacent to the Palapilly and Puthukad estates, where Rubber has thrived so well, can well be opened out for Rubber without prejudice to the forests. His Highness' Government are therefore prepared now to receive applications for this extent of 5,500 acres, as well as for any extent of the land reported upon by Mr. Cecil Hall on the Sholayar Valley (*see* Appendix) up to 10,000 acres, for Rubber cultivation on the following terms:—

- (a) The areas available for assignment will be demarcated into 500 acre blocks. Any person may apply for several contiguous blocks.
- (b) The upset price will be Rs.25 per acre or Rs.12,500 per block and include the value of the forest growth, subject to clause (l) *infra*. The lease will be sold to the highest bidder at an auction to be held at Trichur in the Office of the Conservator of Forests on 14th June, 1909.
- (c) The sale will be conducted by the Conservator of Forests and subject to confirmation by the Diwan. The successful bidder shall, at the time of sale, pay down 25 per cent. of the purchase money and the balance thereof shall be paid in full within 30 days after the communication to him of the confirmation of sale by the Diwan, failing which he shall forfeit his deposit money and be held responsible for any loss the Sirkar may sustain by re-selling the lands either by public auction or private contract.
- (d) The Diwan reserves to himself the right to confirm or cancel any sale without assigning any reason.
- (e) *Bona fide* applications from Planters and from the natives of the State, who wish to invest in Rubber, and pioneers of Rubber plantation in the State will be given preference.
- (f) The lands will be charged with a minimum assessment of As.8 per acre for the first eight years of the lease and thereafter with an assessment of Rs.2 per acre. The rate will be subject to enhancement in the open competition. This assessment shall be payable by lessees, whether the Rubber trees shall have begun to yield or not.
- (g) All payments to be made by the lessees shall be recoverable as arrears of public revenue under provisions of the Cochin Revenue Recovery Regulation.
- (h) In the event of the lessees raising any catch-crops, which, in the opinion of the Conservator of Forests, may be likely to render the lands so cultivated permanently unfit for the growth of valuable timber trees, the lessees shall be liable to pay a fine of Rs.5 per every acre so cultivated, and the crops so grown shall, at the option of the Conservator, be destroyed.
- (i) The lessees shall not be entitled to any minerals or allowed to quarry laterite, ground granite, &c., free of seigniorage, except for the *bona fide* estate buildings.
- (j) No fire (other than may be for ordinary use in dwellings or factories upon the premises) shall be set to within the area hereby assigned, unless a clear week's notice thereof shall have been given to the Conservator and his consent shall have been obtained.
- (k) All existing rights of way shall be kept open.

- (l) The timber rights may, if necessary, be sold separately or with the land. His Highness' Government reserve to themselves to sell both together or separately to the best advantage.
- (m) As the measurement of the land previous to its being cleared may be more or less incorrect, the land to be again measured after it has been cleared, and the permanent rent to be assessed on the area thus correctly ascertained.
- (n) The land to be enjoyed by the lessee as long as the rent is regularly paid; but in the event of the rent falling in arrears for more than one year, his improvements thereon as well as any other available property to be sold to make good the same.
- (o) Should the lessee relinquish the land before it has been cleared and planted, he shall pay to the Sirkar the full rent of Rs.2 from the day on which the land was given to him to the day on which he notifies to the Sirkar that he has relinquished it.
- (p) His Highness' Government reserve to themselves the right of constructing any roads, channels, or public buildings required for the public convenience and for making the lands accessible; but when improved lands are taken up for such purposes, the improvements to be paid for at a fair valuation.
- (q) His Highness' Government also reserve to themselves the right over all running water beyond the quantity necessary for the plantation through which it passes.
- (r) It should be distinctly understood that all persons holding lands or residing within the territory of His Highness the Rajah are amenable to the Law Courts of the country, Civil, Criminal and Police.

A. R. BANERJI,
Diwan of Cochin.

APPENDIX.

*Description of Rubber Lands at the Sholayar Valley as reported by
Mr. Cecil Hall.*

Land.—Very heavy forest land, most favourably situated, running along both sides of the forest tramway and along both sides of two fine perennial rivers and in several large sheltered and hollow valleys.

Situation.—All within easy reach of the forest tramway and about 20 miles from the sea as the crow flies.

Soil.—1 to 1½ feet of rich leaf mould on the surface with sub-soil, brown and friable, and almost free from stones. The land is well drained and never water logged.

Elevation.—From 300 to 1,500 feet. The larger portion of land along river banks and in hollow valleys is 800 to 1,000 feet.

Climate.—Very forming and humid for 10 months in the year, January and February being dry, but heavy moisture from dews during these two months. March, April and May thunder-storms. June, July, August, September, south-west monsoon. September, October, November and December, north-east monsoon.

Rainfall and Temperature.—No accurate data to go upon, but from records gathered in the vicinity of land the mean for the year points to 80° to 85° Fahr. in shade and rainfall about 100 inches.

Labour.—All sorts plentiful and cheap.

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[No. 4.

U. P. A. S. I.

Indian Tea for India.

"Toda" writes:—"Some little time ago there was considerable enthusiasm amongst Tea Planters in devising schemes for popularizing the consumption of Tea amongst the natives of India, but we hear nothing of the subject now.

"It would be interesting to hear what methods have proved successful up to date, and whether anything is still being done in that direction in South India?"

Shortly before this letter was received, an inquiry was made by the Indian Tea Association, Calcutta, with reference to a scheme that had been submitted to the U. P. A. S. I., by Messrs. Vijiam & Co., of Madras, in August, 1907, with reference to the sale of Indian Tea in India.

The Indian Tea Association asked for information concerning Messrs. Vijiam & Co's. scheme and also for an expression of the views of the Council of the U. P. A. S. I. upon it.

Individual planters who have had transactions with the above firm would render good service if they would kindly communicate with the Secretary, U. P. A. S. I., relating their experience and offering suggestions, etc.

Scientific Investigations.

A circular from the Government of India, communicated through the Government of Madras, states:—

"In view of the facilities now afforded in India by the expansion of Scientific Departments, His Majesty's Secretary of State has decided that requisitions for scientific investigations of Indian products should only be sent to the Imperial Institute when it is clear that owing to their special character or for any other reasons they cannot with advantage be conducted in India."

This is not intended to discourage resort to scientific investigation when occasion requires.

Ceylon Labour Ordinance.

The Secretary, Planters' Association of Ceylon, has kindly furnished the U. P. A. S. I. with a copy of Minutes of Proceedings of a Meeting, held on the 28th ultimo, to consider the Draft Labour Ordinance.

This arrived too late to be published in the April issue of the *Planters' Chronicle*, but extracts from it are printed in the present number.

Mr. George Romilly.

Under instructions from the Chairman, an expression of the warm thanks of the Council of the U. P. A. S. I. was conveyed to Mr. George Romilly for his good offices in connection with Ceylon Planters and of appreciation of the tactful way in which his recent mission was carried out.

Mr. Romilly replied thanking the Council for their kind appreciation of his services in Ceylon.

The Planting Member.

In a letter dated the 10th April, the Hon'ble Mr. C. E. Abbott wrote :—

"I leave for England for 6 months on April 20th and I have to-day submitted my resignation as Member of Council to His Excellency the Governor of Madras. I wish to thank all members of the U. P. A. S. I. for the honor they have done me in electing me as their representative.

"I wish I could have held the appointment for the full term, and done more for my constituents. I put the claim of the Travancore Planters to have the Theni Bridge built as strongly as I could both verbally and in writing before Government, and I am glad to say that funds have now been provided for its construction, and that this long-standing grievance will soon be a thing of the past. That the railway to Bodainaikanur is not already under construction is not the fault of the Madras Government, but of the policy of the Government of India about raising loans for railways.

"There was a good deal of feeling shown about the attitude of the Cinchona Plantations' Directorate towards Planters at our last Meeting. I spoke on this at the Budget Meeting. The Department is willing to buy bark at the rate ruling in London, and to pay more for bark yielding 4 per cent. quinine. I think that if it is decided to pursue the matter further we might follow up the suggestion to get Government to take delivery at a railway station in the low country, or at a seaport. It probably costs a Travancore Planter more to deliver his bark at Naduvattam than in London. Government admits that it is absurd to have to buy Java bark in Holland and ship it back to India. But they cannot buy sufficient bark anywhere else. So it remains to be seen if Indian Planters will grow Cinchona.

"As regards the education of coolies' children, I pointed out that compulsory education would in many cases be a positive hardship. We now have the assurance that it is not intended to have any compulsion. If anything is done, it will be merely to provide facilities for educating those children whose parents wish to send them to school. We may note this promise with satisfaction. Because, from a reply to a question some time ago in Parliament, it looked as if Government had some idea of obliging all Planters to have all their coolies' children educated.

"About the Madras Planters' Labour Law, which is only in force in the Nilgiris and Wynaad, those two District Associations have agreed to leave the subject alone for the present. Government has refused to withdraw the Act, or to amend it as we want it amended. Perhaps if all the Districts affiliated to the U. P. A. S. I. agreed to accept the Act if satisfactory amendments were granted Government might consider the matter. But such agreement is at present certainly beyond practical politics."

The Madras Government have been addressed with reference to Mr. Abbott's resignation, so that, if permission be granted, a successor to him may be selected for nomination to the Legislative Council of Fort St. George,

DISTRICT PLANTERS' ASSOCIATIONS.

South Mysore Planters' Association.

Minutes of Forty-fifth Annual General Meeting of the South Mysore Planters' Association held in the Munzerabad Club, Saklasapur, on the 31st March, 1909.

Present.—Messrs. J. G. H. CRAWFORD (*President*), S. M. PLAYFAIR, C. K. PITTOCK, S. SLADDEN, GRAHAM ANDERSON, C. I. E., T. ANDERSON, W. F. SCHOLFIELD, W. L. CRAWFORD, J. A. HARRIS, J. AIRD, and R. F. LAMB (*Honorary Secretary*).

Also by Proxy.—R. A. ANDERSON.

Visitors.—Messrs. E. HALL, Santaveri, and L. F. LAKE.

President's Address.

SAKLASPUR.

GENTLEMEN,

In addressing you on this the Forty-fifth Annual General Meeting of our Association, it gives me much pleasure to congratulate some of you, if not on good crops, on prices which compare favourably with those of the preceding years, and as the most recent advices from London continue to be promising, I sincerely hope that many others may be equally fortunate.

I am also very glad that in the majority of cases there is the prospect of high average crops for 1909-10.

SEASON AND PROSPECTS.

The past season has been marked by the shortness of rain over Mysore generally, a shortfall that has in some instances been fraught with damage to our industry and the country at large, the ryots in particular being great sufferers and to whom early and ample rains as to many of us are of the utmost importance. A few members of our community have been fortunate in getting fairly good showers, but by far the larger number are still in suspense and to those I can but say I truly hope their anxiety may be relieved within the next ten days, as on the advent of propitious rain within that period in a great measure depends the prospect of the high average crop above alluded to. On the estate I am in charge of, I may cite, as an instance of the dryness of the season, that since the 31st August last only 3.75 inches of rain have fallen.

U. P. A. S. I.

The result of the last Meeting of the U. P. A. S. I. has been laid before you, so on this point I need not touch further than to say that the subject of the Arsikere-Mangalore Railway was kept to the front, and since then I am glad to say has been ably advocated by Sir Roper Lethbridge (to whom our thanks are due) and others; so in time we may see this much-needed project put in hand.

AGRICULTURE.

As no indications of the intentions of the Government have become available, I cannot refrain from alluding to the loss not only to our industry, but to the Agricultural interests generally in Mysore, consequent on the retirement of Dr. Lehmann, as although it has in a measure been mitigated by the appointment of a Mycologist and Entomologist, still the hopes formerly entertained that the Scientific staff of the Agricultural department would be gradually increased, have been placed in abeyance. As the main industry in this Province is Agriculture, it cannot but be earnestly trusted that arrangements will be made not only to secure the results of Dr. Lehmann's experimental investigations made during the last ten years, but to extend the enquiries so ably conducted by him into new fields of usefulness so that the fullest advantages may be derived from the perfectly equipped laboratory for the special study of the many purely local difficulties which have to be contended with in Mysore and to which he has drawn such prominent attention.

MEDICAL.

In my last Address under this head I alluded to the increasing size and importance of Saklaspur, and hoped that the existing Dispensary would be enlarged, in fact, brought up to a first-class standard. I am happy to say that the P. M. O. has since visited the hospital and very sympathetically received our suggestions and promised that they should have his early attention, or that of his department. As, however, it appears that nothing has been done to the buildings, I would again emphasise the very urgent necessity for at least two or three in-wards and all conveniences for attending to serious cases, as valuable lives have in case of severe accidents, under existing conditions, to be risked in sending patients to the District Hospital, distant some 35 miles from portions of this Taluq.

SCARCITY.

We have all to deplore the high price of food-grains and conditions bordering on famine prevailing in parts of the State, and consequent suffering to those least able to bear the stress of such conditions, but note with satisfaction, that Government have taken prompt steps to alleviate any cases of undoubted distress and to adequately cope with severe famine conditions should such be unfortunately brought about by the failure of the rains now due. That such will not be the case I am sure you will all join me in wishing and hoping that early and ample showers will soon bring back prosperity to the affected Districts and incidentally crown the result of our labours for the past twelve months with good crops.

CONCLUSION.

In conclusion, Gentlemen, I must tender you my best thanks for the honor conferred in electing me as your President for the past year, a post that owing to the genial and hearty co-operation of our Honorary Secretary, Mr. R. Lamb, who has spared neither time nor trouble in furthering the interests of our Association, I have found it very easy to fill, and in tendering him the thanks of all Members of the S. M. P. A., I feel that I am but voicing the desire of all here present, and of those who have unavoidably been prevented from attending this Meeting, and that he will put us under a further obligation by continuing to act as Honorary Secretary.

Gentlemen, to conclude, as I am going Home for some months, I will again thank you for having made me your Chairman and place my resignation in your hands.

31st March, 1909.

J. G. H. CRAWFORD.

Honorary Secretary's Report.

GENTLEMEN,

I have the honor to present to you the Forty-fifth Annual Report of the South Mysore Planters' Association.

This year has perhaps been more uneventful than usual as regards opportunities for work of what one may call general public utility, but those members who have utilised the good offices of the Association in matters of local interest have found the Association's influence a considerable help towards a satisfactory settlement.

FAMINE.

During the past season we have had a sufficiency of labour, but it has been very materially affected by the dearness of grain, owing to the failure of the N.-E. Monsoon and the consequent withering of the paddy and raggy crops. Owing to the high cost of living our imported labour will take away to their villages very little money to carry them on till next season, and whether this will affect their return to the District or not remains to be seen. With the amount of competition we have now to contend with on all hands there is no doubt that another season, like the past has been, will see us in very grave difficulties.

The Association, through your Committee, approached Government with various suggestions tending to relieve the tension in these outlying parts, but were informed that these were impracticable as savouring of interference with free-trade. The result was that while we were supplying work to the cooly from the famine-stricken areas the food in the District which would in ordinary circumstances have sufficed for all our needs was bought up and exported by speculators and famine conditions prevailed over a District where there should have been none. The acute stage has now passed, but prices are still by no means normal, and everything centres on the sufficiency or otherwise of the rains during the coming Monsoon.

RAILWAYS.

We have agitated so long and with so little success for Railway facilities in the District that we may perhaps be pardoned for reverting to this subject in the "I told you so" spirit, and calling the attention of Government to the striking way in which our arguments for the Arsikere-Mangalore Railway have been proved by our experiences during the past season. Had the line been made when originally surveyed, a great deal of the distress we have just suffered from would have been obviated, and grain could have been poured in from Canara in such quantities that prices would have remained normal in our own District, while there would have been at the same time sufficient to relieve the distress in the more westerly portions of the *Maidan* untapped by the Southern Mahratta Railway. As this subject comes up on the agenda, I need not refer to it further here.

SCIENTIFIC OFFICER SCHEME AND COFFEE POPULARISATION SCHEME.

I very much regret that there is nothing further to report regarding these two most important subjects. They are both under the consideration of the Imperial Government, and till a decision is arrived at, we can do nothing further.

MEMBERSHIP.

It is with deep regret I have to record the loss by death of one of our most active and popular Members—Mr. J. E. Butcher. Ever ready with his assistance and advice his presence will be very much missed at our Meetings. Since our last Meeting, Mr. Hayward, of Goorghully Estate, has joined the Association.

I beg to place my resignation in your hands.

RODERICK F. LAMB.

Railways.—Proposed by Mr. W. L. Crawford, and seconded by Mr. Graham Anderson:—"That this Association desires to cordially endorse the vote of thanks to Sir Roper Lethbridge for his valued advocacy of the construction of the Arsikere-Mangalore Railway, and while approving of the terms of the Memorial submitted by the U. P. A. S. I. to His Excellency the Viceroy, confidently hopes that this most desirable project, which will tend so materially to develop the Resources of Mysore and contribute so vastly to the welfare and prosperity of its people and industries, may shortly be carried out." *Carried unanimously.*

Redaction of D. P. W. Grant by Mysore Government.—Proposed by Mr. J. A. Harris, and seconded by Mr. E. M. Playfair:—"That this Association regards with regret and concern the proposed reduction of the grant to the D. P. W., and as the efficient maintenance of the roads and communications is essential to the welfare and prosperity of the State, it urges Government to re-consider its decision. That the state of the roads at present already demands a greater expenditure than hitherto, and we regard the present policy of curtailed grants as disastrous to the best interest of the State."—*Carried unanimously.*

U. P. A. S. I. Labour Committee's Questions.—Proposed by Mr. J. A. Harris, and seconded by Mr. Pittock:—"That this Association fails to see that any benefit is likely to accrue from replying to these questions, and that therefore they be not circulated among the Members."—*Carried unanimously.*

Act I of 1903.—Proposed by Mr. J. A. Harris, and seconded by Mr. Aird :—"That a Sub-Committee be appointed to draw up a memorandum of such modifications as are necessary to make the Act suitable to Mysore.

"That this memorandum be forwarded to Government with the intimation that this Association considers that the introduction of the Act, modified in some of its details so as to suit local conditions in Mysore, should no longer be delayed. And that the co-operation of the N. M. P. A. be invited, as it is most desirable that the two Associations should act hand in hand in this matter."—*Carried unanimously.*

The following gentlemen were elected as Sub-Committee :—Messrs. J. Aird, Graham Anderson, C.I.E., T. Anderson, J. G. Hamilton, A. R. Park, W. L. Crawford and the Honorary Secretary, with power to add to their numbers.

European Doctor for Planting District.—Proposed by Mr. J. A. Harris, and seconded by Mr. J. Aird :—"That in view of the large increase of ladies and the number of deaths among the European population in the District which humanly speaking might, with adequate medical assistance, have been obviated, the time has come to bestir ourselves and that the Honorary Secretary be instructed to circularise the Members of this Association with the view to find out whether they are in favour of a fully-qualified European Doctor being engaged for the Planting District, and to what extent they are prepared to support such a scheme."—*Carried.*

Election of Office-bearers.—The following gentlemen were appointed Office-bearers for the ensuing year :—

Mr. W. L. CRAWFORD, *President.*

" R. F. LAMB, *Honorary Secretary.*

" J. G. HAMILTON

" C. K. PITTOCK

" E. M. PLAYFAIR

" J. AIRD

" J. A. HARRIS

" A. R. PARK

" S. SLADDEN and Mr. T. ANDERSON, *In Waiting.*

" T. ANDERSON and Mr. S. SLADDEN, *Auditors.*

} *Committee.*

A cordial vote of thanks was accorded the retiring President, Mr. J. G. H. Crawford.

RODERICK F. LAMB,
Honorary Secretary, S. M. P. A.

Coffee as a Catchcrop with Rubber.

The following may be of some interest to any owners of Estates where coffee is grown as a catchcrop with rubber or where rubber has been planted through old coffee in alluvial soil.

They are figures giving the result of the working for the year 1908 on the Golden Hope Estate, Klang.

Acreage	Planted with Coffee 10 x 10.	Interplanted with Para Rubber 30 x 15.	Field of Clean Coffee per acre 1908.
30	13 years ago	April 1905.	5½ piculs.
35	do.	do.	3½ "
35	do.	do.	5½ "
33	do.	do.	6½ "
27	12½ years ago.	not interplanted.	10 "
152	11 years average.	interplanted Apr. 03.	1 4/5 "

INDIAN TEA ASSOCIATION, CALCUTTA.

Extract from abstract of the Proceedings of a Meeting of the General Committee held on the 23rd March, 1909.

*Correspondence with the Indian Tea Association (London).—*Letters of 26th February and 6th March, from the Indian Tea Association (London), which had been previously circulated, were now ordered to be recorded.

The principal subjects dealt with in these letters were as follows:—

- (a) *Field Museum of Natural History, Chicago.*—The London Association had been asked to assist in the collection of exhibits relative to Indian Tea for this Museum, and they suggested that the General Committee might be able to help. Particulars were given as to the exhibits required and it was agreed to ask Dr Hope to collect as many of these as he could.
- (b) *British Tea Duty.*—With his letter of 5th March, Sir James Buckingham forwarded copy of a memorial on this subject which has been submitted to the Chancellor of the Exchequer by the Ceylon and Indian Tea Associations in London. The memorial pointed out that the high import duty on tea is prejudicial to the interests both of producers and of consumers; mentioned the fact that the higher taxation in the early years of this century arrested the steady annual increase in consumption which had previously prevailed; and referred to the enormous amount of British capital invested in the industry. The memorial further expressed the hope that, in framing this year's Budget, the Chancellor would give favourable consideration to the matter.

Scientific Department—(a) Heeleaka Experimental Station.—A letter of 8th March, from Dr. G. D. Hope, forwarding Minutes of Meeting of the Heeleaka Advisory Committee of 5th March, was to be recorded. In view of the fact that considerable numbers of visitors now go to inspect the work of the Department at Heeleaka, the General Committee had agreed to allow the Assistant Scientific Officer an entertaining allowance and the views of the Advisory Committee were asked as to what sum might be given. They suggested an allowance of Rs.50 per month, dating as from 1st January, and this proposal was now sanctioned. The question of accommodation at Heeleaka for visitors had also been under consideration by the General Committee who had referred it to the Advisory Committee; and at their meeting the latter had decided to recommend that a separate room should be constructed adjacent to the Assistant Scientific Officer's bungalow, and to make enquiries as to the probable cost.

- (b) *Entomological Department.*—At their last Meeting the General Committee had under consideration Mr. Antram's proposal for spraying experiments in connection with Mosquito Blight; the arrangement is that Ghazipore and Rampore Estates are to be completely treated, and West Jalinga partly treated, with soap solution. The suggestion was made to Mr. Antram that it might be advisable to have at each of these Estates a control plot so that the effect of the treatment could be more accurately gauged. And reference was at the same time made to the desirability of having comparative experiments made with Kerosene Emulsion, so that it might be more definitely determined which of these two remedies is the more efficacious. In a reply of 16th March, Mr. Antram mentioned that as at West Jalinga only 28 acres were to be treated, the untreated blocks adjoining that area would serve for purposes of comparison; similarly, at Rampore, two neighbouring Estates bordered the tea that would be treated. But Ghazipore was more or less isolated, and he was anxious to treat the whole of it so that there could be no possibility of infection from an untreated portion. In view of what Mr. Antram stated it was agreed to acquiesce in his suggestions,

With reference to the question of experiments with Kerosene Emulsion he was to ascertain whether arrangements could be made for trying it also.

Indian Tea Cess Committee.—Mr. Lockhart Smith, who represented the Indian Tea Association, London, on the Tea Cess Committee, has resigned his seat and the London Association have been invited to nominate a gentleman whose name might be submitted to Government with a view to his appointment to the vacant seat. In noting Mr. Lockhart Smith's resignation, the Committee unanimously expressed their cordial appreciation of the valuable work done by him on behalf of the Tea industry in his capacities as Chairman of the Tea Cess Committee and as Chairman of the Association.

Mr. W. D. Cowan has also resigned his seat on the Cess Committee and, on the recommendation of the General Committee, Mr. McMorran has been appointed to succeed him.

Extract from Abstract of the Proceedings of a Meeting of the General Committee, held on 6th April, 1909.

Correspondence with the Indian Tea Association (London).—Letters dated 12th and 19th March, from the Indian Tea Association (London), which had been previously circulated, were now ordered to be recorded. The principal subject dealt with in these letters was the following:—

Light Railways in Assam.—Sir James Buckingham referred to the announcement that the Secretary of State had reduced the expenditure on Railways in India for 1909-10 from 18½ crores to 15 crores of rupees, and that the programme of construction would be modified; he enquired whether this would affect in any way the programme for feeder lines in Eastern Bengal and Assam. In this connection it was to be pointed out to him that, as mentioned in the Proceedings of last Meeting, the Agent of the Assam Bengal Railway had reported that Government had stopped all survey operations in connection with their line. The Committee had, however, noticed that in the Budget for 1909-10 provision was made for an expenditure on the Assam-Bengal Railway of Rs. 31·18 lakhs, the mileage sanctioned for construction comprising Akhaura to Ashuganj 19·32 miles and Kalaura to the Khooseara river 16 miles.

Scientific Department.—Mosquito Blight.—In a letter of 30th March from the Dooars Planters' Association there was forwarded a copy of a resolution adopted at a Meeting held on the 27th March. The Resolution expressed the opinion that the measures recommended by the Entomological Department of the Association were too costly in view of the frequent difficulty in obtaining a sufficient supply of water, and from the amount of labour required, to make them practicable. The Resolution therefore recommended a more earnest programme of manuring and cleaning out of the bushes, burning prunings and catching insects. Copies of this letter had been forwarded for information to Dr. Hope and Mr. Antram.

In a letter of 2nd April Mr. Antram referred to the experiments arranged for this year in connection with Mosquito Blight. At Ghazipore Tea Estate the Manager had found it impossible to carry out the full programme at once owing to want of water; it was therefore proposed that spraying should only be begun when the insect makes its appearance, as, at the time of writing, there did not appear to be any insects on the tea. This suggestion was agreed to.

The London correspondent of the *Ceylon Observer* states that Mr. Stuart Cope "is certainly doing his utmost to justify his existence as Secretary" to the Anti-Tea-Duty League,

CEYLON'S COMING LABOUR ORDINANCE.

The following were the final recommendations of the Standing Sub-Committee of the Planters' Association appointed to consider the Draft Ordinance to amend Ordinance No. 13 of 1889:—

RECOMMENDATIONS.

(A) That the definition of labourer be altered to mean every Labourer and Kangani, commonly known as Indian coolies, and Moormen, commonly known as Tulicans, whose names are entered on the Estate Register.

That Ordinance No. 7 of 1890 be repealed as Section 6 of 13 of 1889 is replaced by a new Section.

SECTION 3.—In event of No. 7 of 1890 not being repealed to add the words: "as amended by Ordinance No. 7 of 1890."

(2) After "able and willing to work," to add "and did definitely demand the same."

(4) Omit words "during such period." (To permit of a debit balance being carried forward from one month to the next).

(5) To add "always provided that not more than 50 per cent. of the balance of pay due shall be paid to a third party and that a receipt be given to the labourers for any such payments."

SECTION 21.—(2) Omit "not later than the third day of the month," and insert within 34 days of the date on which the wages become due"

SECTION 22.—After "twenty rupees" add the words "and a further fine of Rs.5 per diem thereafter."

This refers to the penalty for failing to forward a copy of the first register of all the labourers on the estate, whether on the check-roll or on contract, to the Government Agent.

Every employer shall thereafter enter on the register, the names of any labourer who may enter into employment on his estate, whether on monthly contract of service or any other form of contract.

He shall also, whenever a labourer dies or quits service, record the fact and the date thereof in the register.

A further recommendation of a penalty of Rs.20 fine on any occasion when register is proved not to have been kept up-to-date.

SECTION 23.—(1) Omit the words "below the age of 15."

To add after "his employment," the words "or allow to be employed on any contract any labourer, &c."

(3) Omit words "below the age of 15."

To add after the words "and shall be liable civilly," "to the person to whom the labourer is so bound, to pay to such person as liquidated damages, a sum not exceeding Rs.100 for each and every labourer so employed."

SECTION 24.—(2) Add the words "but in no case shall the discharge ticket be handed to the labourer."

(3) To substitute "5" for "3" days.

To add to Clause:—

"(3 A). Such discharge ticket to state the amount of unliquidated liability if any.

"It shall be the duty of the new employer when issuing a fresh discharge ticket to labourers who have left their original employment without having discharged their liabilities to include the amount of such on their discharge tickets and no employer shall give a clean discharge ticket until such liability is liquidated.

"When a kangani and a gang of labourers, having a collective liability, give notice, the employer shall give a memorandum stating the amount of the collective liability and on being called upon to furnish discharge tickets shall

state on such discharge tickets that the labourers are individual members of a gang. The total undischarged liabilities of which amount to Rs.—"

SECTION 25.—(1) To add "and their children" after "all labourers."

The Ragama certificate to be the equivalent to entry of labourer's name on check-roll as a contract of service.

(By amending Section 5 of 13 of 1889).

In Form 5 (Ragama Certificate) add "place of previous employment, if any, and date to leaving such."

SECTION 27.—A fee of 25 cents. per ticket to be payable to the person issuing the duplicate.

SECTION 28.—To add "(D)."

"Or who not being an employer as defined in Section 3 of 1889 issues to a labourer a discharge ticket, &c."

SECTION 30.—Omit Section 23.

Discussion by the Ceylon Planters' Association.

A special Meeting of the Ceylon Planters' Association was held at Kandy on March 26th, 1909, to consider the Draft Labour Ordinance. Mr. E. Rosling presided, and there were also present:—The Hon'ble Mr. Edgar Turner, Messrs. W. D. Gibbon (Kandy), W. Hendry (Matale), R. Anderson (Kandy), Geo. Hardie (Kotmale), H. Inglis (Kalutara), Edmund Scott (Kurunegala), Alex. Cameron (Nawalapitiya), T. T. Millard (Kurunegala), A. G. McLeod (Wattegama), J. G. Napier (Knuckles and Kallebokka), M. L. Wilkins (K. K. and Panwilla), Gilbert James (Kandy), A. Lee Simpson (Kandy), A. Leslie (Kandy), H. G. Marley (Pussellawa), Arthur Sinclair (Ambegamuwa), W. L. Strachan (Dimbula), E. Gathorne Wood (Hewahetata), Alfred H. Kerr (Rangala), D. J. Blyth (Pussellawa), H. A. Beachcroft, (Kandy), H. Storey (Kandy), Gordon Pyper (Kandy), M. Smith (Dolosbage), F. M. Mackwood (Kandy), E. G. Box (Dolosbage), A. J. Stephens (Dolosbage), C. C. Durrant (Haputale), A. J. Austin Dickson (Kandy), C. Fraser (Maskeliya), H. North (Kandy), E. D. Beresford Bruce (Pussellawa), P. R. Shand (Ambegamuwa), J. E. Martin (Kandy), J. Douglas Fletcher, Joseph Fraser (Kandy), Norman Rowsell (Trichinopoly), C. W. R. Tyler (Pussellawa), Jas. M. B. Duncan (Pussellawa), H. St. C. Bowle Evans (Dimbula), G. C. Bliss (Dimbula), W. Sinclair (Rangalla), A. E. Barrs (Kegalle), W. Coombe (Kegalla), Neil G. Campbell (Nuwara Eliya), J. H. S. Rogers (Nuwara Eliya), G. Graham Clarke (Pussellawa), T. Gidden (Dikoya), W. C. Lloyd (Ambegamuwa), W. Lyall (Matale), Robert Wilson (Matale), J. R. Manners (Rangalla), G. J. Murray (Kandy), A. M. Carmichael (Kandy), R. W. Carmichael (Kandy), A. D. G. Burnett (Kandy), Alex. Wardrop (Secretary, P. A.).

The Chairman's Speech.

The CHAIRMAN: "It is so short a time ago—only six weeks since the last General Meeting—that I think it would be a work of supererogation to go over any *resumé* of the work done in those six weeks. Our business to-day is to consider the report as drafted by the Standing Committee on the Draft Labour Ordinance. It must be borne in mind that this Ordinance is in no sense of the word a Government measure. It is an Ordinance that has been framed by the earnest endeavour of all concerned to bring in a workable Ordinance which may tend to check, and possibly remove, certain abuses which have grown up in our labour system. The Ordinance of 1865 was framed to legalise what at that time had become existing customs, and the difficulty in considering this Ordinance is that the object of it is practically opposite, *viz.*, that we had to frame some alterations to the Ordinance in order to check abuses which have grown out of existing customs. The principles of the Ordinance have already been accepted by this Association in General Meeting, so our work to-day really is merely to consider amendments or recommendations which may tend to simplify, or make more easily workable, the Bill. The Standing Committee, in drawing up their recommendations and considering the amendments, have kept very carefully before them

THE EVILS OF OVER-DEFINITION ;

because it may be taken as an axiom that the more you try to define a meaning the more loopholes will you leave for the mental agility of the legal framers of the Ordinance. It is very much better to leave a definition somewhat vague than try to define it too closely. I think the simplest means of procedure here to-day will be to take the Ordinance clause by clause. A great number of the clauses are not debatable, and I think those might be taken in General Meeting. If, on one or two contentious points, members wish to go into Committee, I think it is only fair we should do so; but I do not think it is advisable to go into Committee over the whole, as that would probably mean our being here until to-morrow morning, especially as a great number of the clauses are barely debatable. We will proceed, if that is the wish of the Meeting. As to the procedure of the afternoon, the Secretary will go through the Bill and the recommendations and amendments of the Standing Committee, clause by clause, and it is open for any gentleman present to bring forward fresh recommendations or amendments. I reserve the right to myself of ruling out of order any amendment which is contrary to the principles of the Bill, which have already been accepted in General Meeting."

CONSIDERING THE RECOMMENDATIONS.

The SECRETARY then read Clause 1, in which the Standing Committee suggested "that the definition of labourers be altered to mean every labourer and kangany commonly known as Indian coolies, and Moormen commonly known as Tulicans, whose names are entered on the Estate register."

The CHAIRMAN: "That recommendation, Gentlemen, is an extra definition of the meaning in the old Ordinance. It is not in this Ordinance at all; but the only way one could do it was by altering the old Ordinance." This was carried.

The further recommendation of the Standing Committee "that Ordinance No. 7 of 1890 be repealed, as Section 6 of 13 of 1889 is replaced by a new Section," was also passed.

Under Section 3, the following recommendation was passed: "In event of No. 7 of 1890 not being repealed, to add the words 'as amended by Ordinance No. 7 of 1890.'"

On Clause 1 of Section 3, the Standing Committee made no recommendation.

MONTHLY PAYMENT.

MR. W. L. STRACHAN said: "Mr. Chairman and Gentlemen, with reference to No. 1 of Clause 3, the District Association of which I have the honour to be a member, proposed to add after the word 'pay' the word 'tender'—'paid or tendered'—and this recommendation was endorsed by several other of the District Associations, and, therefore, evidently was considered by the community as being necessary and sound. I see that your Sub-Committee has, however, omitted it, but it may be that the Sub-Section coming on later is considered to cover this—'The wages . . . has been paid either directly to the labourer himself or to some person expressly authorised by the labourer to receive his wages on his behalf or on his account.' Even so, it hardly seems to me, that it does cover the case, for the cooly may have left the Estate and may be anywhere, and if he has left no authorisation, what is the employer to do? How can he render his report and say to the Government Agent the coolies have been paid, when only a part of them have been paid? Moreover, how can he close up his accounts? There is an axiom of law, which says, 'search your creditor.' It appears to me it is being reversed here to 'search your debtor,' and this, I maintain, is entirely wrong. It seems to me sufficient for the employer to announce the day upon which he is going to pay, and the time, and tender payment, and, if the coolies don't come up, he has no further liability in the matter whatsoever.—(*Hear hear*)."

MR. BOWLE EVANS moved the addition of the words "or tender" after the words "it shall be the duty of every employer to pay" in the Clause.

MR. STRACHAN seconded.

The amendment was lost, and the Sub-Section was carried as it stands.

REJECTED AFTER A SPIRITED DEBATE.

Sub-Section 3 (2) was then read, together with the amendment suggested by the Standing-Sub-Committee, namely: "after 'able and willing to work,' to add 'and, did definitely demand the same.'"

MR. BLISS: "Was there not a suggestion that, instead of the word 'definitely' it should be 'personally.' Definitely seems rather vague."

THE CHAIRMAN: "Mr. Bliss moves as an amendment that the word 'personally' be substituted for 'definitely.'"

MR. MARTIN seconded, and it was carried.

Section 3 (3) was agreed to without amendment.

Section 3 (4) was read with the following amendment, suggested by the Standing Sub-Committee: "Omit words 'during such period.' (To permit of a debit balance being carried forward from one month to next)."

Sub-Section 4 was passed as amended by the Standing Sub-Committee.

Sub-Section 5 was then put to the Meeting.

CASH MONTHLY INSTALMENTS.

THE CHAIRMAN: "A great difficulty all along in framing the Ordinance has been the question of making cash monthly settlements. Hitherto monthly settlement has been the rule, by which you took the whole of a month's balance of pay for advance account, and that is the one thing we wished to avoid. I think this is a clumsy proposal; but I do not think there is any other. It will ensure the cooly getting fifty per cent. in cash, if he does not get any more. That was practically the object of the Committee."

MR. BLACKMORE: "I oppose that. I think his balance of pay due to the cooly should be paid monthly in cash, and any repayment made by him should be absolutely voluntary. I do not believe in giving us power to take fifty per cent. off the balance. That is the way we have been going on for many years. A cooly will hardly ever refuse to pay back one or two rupees if you ask him for it. Another thing, I should like to know why a receipt must be given to the cooly? Who is to give that receipt?"

The Standing Sub-Committee's recommendation was carried by 26 votes to 10.

Sub-Section 6 was carried.

Clause 4, Section 19, was passed as it stood.

MR. BLISS: "Was there no recommendation from the Sub-Committee as to the date (for the abolition of imprisonment for debt)."

THE CHAIRMAN: "That was left in the hands of the Planting Member to press for as early a date as Government can see their way to grant."

Section 20 was next read.

MR. BLISS: "There was a recommendation to add the words 'and duly given a month's notice.' It does not seem quite clear at present whether he has to give a month's notice or not, or whether someone else may give the notice and then, within a few hours of the expiry of the notice, the labourer himself endorse it. I think it would be carrying out the meaning of the Clause if the words 'and duly given a month's notice' were added."

COOLY'S INDIVIDUAL NOTICE.

THE CHAIRMAN: "The wording of the clause is thus: 'A notice or warning of the intention of any labourer to determine his contract of service if given by any other person on behalf of the labourer shall not be effectual unless and until the labourer has personally signified to his employer his desire to determine his contract.' It seems to me that there is no notice in existence, unless he has personally spoken to his employer in addition to the third party giving notice. It seems absolutely clear."

MR. BLISS : " It does not seem quite clear to me that some one else cannot give notice and the labourer confirm it at any time before the expiry of the notice."

The SECRETARY : " It would not be a notice until he has confirmed it."

The CHAIRMAN : " The notice would not be effective as a notice."

The Hon'ble MR. TURNER : " I have a note of that objection, and my intention was to ask the Attorney-General, whether there was a possibility of the Clause being read in any other way. If that were so, I would ask for that amendment."

MR. BLISS : " That, I think, will meet the case."

Section 21 (1) was passed as it stands. To Section 21 (2) the Sub-Committee proposed to omit "not later than the third day of the month," and insert "within 34 days of the date on which the wages become due."

The CHAIRMAN : " It did not say which month. Thirty-four days give a definite period of time."

The amendment was agreed to.

Sub-sections 34 and 5 of the same Section were passed as they stood.

THE COOLY REGISTER.

To Sub-Section 22, the Sub-Committee proposed to add the words "and a further fine of Rs. 5 per diem thereafter and the addition of a penalty of Rs. 20 on any occasion when the register is proved to have been kept up-to-date;" and this was agreed to.

In Section 23 (1) the Sub-Committee propose to omit the words "below the age of 15," and to add after the words "his employment" the words "or allow to be employed on his contract any labourer."

The CHAIRMAN : " The object of this is to make it a little more clear, that a cooly employed on a contract comes under the Ordinance just as much as a cooly on the Check-roll."

The recommendations of the Sub-Committee were carried.

Section 23 (2) was passed as it stands, and Section 23 (3) with the alterations recommended by the Sub-Committee, viz. : "Omit the words below the age of 15 and to add the words 'and shall be liable civilly' to the person to whom the labourer is so bound to pay such person as liquidated damages, a sum not exceeding Rs.100 for each and every labourer so employed."

MR. BLISS : " Then you omit the last four lines that follow?"

The CHAIRMAN : " Yes."

Section 24 (1) was passed as it stood.

On Section 24 (2) being read,

MR. HAROLD NORTH asked : " Would it not be a good thing to put in the word 'kangany' after 'labourer'."

The SECRETARY : " 'Labourer' includes 'kangany'."

MR. BOWLE EVANS : " What penalty is attached to a person who does hand the discharge-ticket to the cooly? The Ordinance says you must not do so. What if he does?"

The CHAIRMAN : " It may come under the head of wrongfully issuing discharge-ticket."

The SECRETARY : " Sub-Section 4 provides for that."

In Section 24 (3) "5" for "3" days was substituted as recommended by the Standing Committee, and the following Clause (3A) was added : "Such discharge-ticket to state the amount of unliquidated liability, if any."

The Notice Cooly Question.

BRANDING THE INDEBTED COOLY.

MR. G. C. BLISS, on this point, said : " Mr. Chairman, are we to understand from this proposal that Government are to be asked to allow the employer to make the labourer's discharge-ticket as being a member of a gang with unliquidated liability, whether we have any sort of knowledge, whether he owed any money at all. That is how I read the Ordinance, and I should like to dissociate myself from that. It reads to me like a monstrous injustice—there is no other word for it—and I am astonished that any such recommendation should go from this Association to Government. If it does not actually mean that, it is most unfortunately worded. There is not the slightest possibility of the proposal being entertained by Government, but, apart from that, it is a bad thing for this Association to make such a proposal without having taken any trouble to ascertain whether the cooly owes any money at all. We ask to be allowed to put upon his discharge-ticket a statement of the fact that he is a member of a gang who have repudiated their debts, and so attach a stigma to him for the rest of his life. I cannot give any sort of approval to any such suggestion as that ; and in place of it I will draw the attention of the Meeting to the Resolution on the same clause passed at Dimbula. Though we ask to have some punishment or some deterrent put on notice-givers with unliquidated liability, we at any rate show ourselves ready, before putting the bar sinister upon him for the rest of his life, to go before the magistrate and substantiate our claim to this liability. It is only when we have satisfied a third party we want to get him prevented from getting further work on an estate.

The CHAIRMAN : " Mr. Bliss expresses a wish that we go into Committee on this Clause."

The Meeting went into Committee.

MR. S. P. BLACKMORE : " The collective memorandum is perfectly optional. You can give a collective memorandum, or you can give an individual one to each individual cooly."

The CHAIRMAN : " Undoubtedly."

NO INJUSTICE TO THE COOLY.

MR. BLACKMORE : " And, therefore, I do not see where Mr. Bliss's point of a great injustice comes in. If an individual cooly asks for a memorandum, I take it, if we did not know his debt as a member of the notice gang, we should leave it blank. I don't know that I am quite in favour of giving a memorandum to a gang. When a hundred coolies give notice you may be certain that the whole of the gang are not going to give notice without pressure being brought to bear by the head kangany. When the gang leaves I think it would be better to give each cooly his own memorandum, so that there would be no need for him to go with the head kangany. He could go here and there, and that would break up the head kangany. What we want to do with the head kangany who gives notice is to break his power. We should try to do that by inducing the cooly to go elsewhere and not go with him. We might lose our advances, of course, but we would probably lose them in any case. What I rose to say specially is that it is purely optional to give a collective or individual memorandum." (*Hear, hear*).

MR. J. M. B. DUNCAN : " The cooly is not obliged to leave the estate with the stigma Mr. Bliss mentions."

MR. HARRY STOREY : " Are we to ask for no protection whatever against the matter of notice-giving with a view to evade debt or liability. It seems to me there is nothing whatever of that nature under this proposed Ordinance, and there is no suggestion from the Standing Committee."

The Hon'ble MR. TURNER : " The suggestion of the Standing Committee is to put his debt on the discharge-ticket until he has liquidated his debts. What we want is that a man giving notice will always be known as a man giving notice until he has liquidated his debt."

The clause was passed.

"COLLARING" THE INDIAN CHILD.

Section 25 (1). To add " and their children " after " all labourers."

This amendment of the Standing Committee was adopted.

The Hon'ble Mr. TURNER : " The object of that, as we had struck out the age in Section 23, was to give us the opportunity of collaring the child who came from India, and get it put on to the register in contradistinction to the child born in Ceylon."

The following amendment was also made to this Section : " The Ragama Certificate to be equivalent to entry of labourer's name on Check-roll as a contract of service." (By amending Section 5 of 13 of 1889).

In Form 5 (Ragama Certificate) add " place of previous employment, if any, and date of leaving such."

The CHAIRMAN : " Hitherto the cooly does not enter into an implied contract until his name has been entered on the Check-roll, and there is always the possibility of his disappearing between Ragama and the estate. If we got that conceded, that the mere fact that he passes Ragama implies a contract, we have then the right to proceed against him at once if he bolts when he leaves Ragama." (*Hear, hear*).

In Section 27, the following amendment by the Standing Committee was adopted : " A fee of 25 cents per ticket to be payable to the person issuing the duplicate."

The CHAIRMAN : " It was felt that in the case of a fire, where a large number of tickets were burnt, it was only fair to the man who had to re-issue them that he should have something for his trouble." (*Hear, hear*).

In Section 28, the following recommendation of the Standing Committee was carried : " To add (D), or who not being an employer as defined in Section 3 of 1889 issues to a labourer a discharge-ticket, &c."

In Section 30, the recommendation to " omit Section 23 " was carried.

The CHAIRMAN : " The reason for taking out Section 23 is that it is a case of Superintendent *versus* Superintendent. We do not think there is any need of going to the Colonial Secretary in such a case. Where it is a case of a discharge-ticket, or something of that sort, before the Superintendent can take a case against the cooly, he must get sanction in writing from the Colonial Secretary." (*Hear, hear*).

The CHAIRMAN : " That finishes the Ordinance."

UNIFORMITY OF FORMS.

MR. BOWLE EVANS : " I hope that the Standing Committee will see that there is complete uniformity of the schedules and discharge-tickets. We do not want a thick one in Dimbula and a thin one in the Kelani Valley, or one blue here and one pink there."

The CHAIRMAN : " That is a point the Planting Member has made a note of. We have more or less brought the schedules into order. We hope to get a common type of discharge-ticket." (*Applause*).

MR. GRAHAM CLARKE : " We have heard a good deal of rining to-day. Who is liable for these fines—the Superintendent or the Estate?"

The CHAIRMAN : " That rests with the employers and Superintendent."

This concluded the Meeting.

RUBBER.

The New Rubbers.

The following paper was read by Mr. R. H. Lock, Acting Director, Royal Botanic Gardens, Ceylon, before the Board of Agriculture, on the 7th April.

A good deal of information has appeared during the past year in the *Tropical Agriculturist*, and elsewhere, concerning certain novel varieties of *Manihot*, the genus to which Ceará Rubber belongs. The reports so far received as to the growth and yield of these rubber trees in their native country are so remarkably promising, that little or no apology seems required for an attempt to put briefly before you a summary of what is known at present about these new and interesting species.

THE FIRST PIECE OF INFORMATION

with regard to these species to be received at Peradeniya came in the form of a circular from Messrs. Vilmorin-Andrieux & Co., the great firm of seedsmen in Paris, dated February 15th, 1907. In this circular, a price was quoted for a large seeded species of *Manihot*—name unknown—which was stated to be superior in many respects to the *Manihot glaziovii* or Ceará Rubber. An order for 1,000 seeds of this species was at once despatched by Dr. Willis, but—owing to the failure of Messrs. Vilmorin's supplies—the order was not executed until last year. The seeds were received in August, 1908, and 500 were sown on the Experiment Station, Peradeniya, on the 12th of the month. Two hundred and eighty of these seeds germinated and developed into strong seedlings. They were planted out 12 by 12 feet apart in December, and, in spite of bad weather for planting, they are all doing remarkably well owing to special precautions taken at the advice of Mr. Kelway Bamber.

At Kew, according to a recent bulletin, the first account of the new rubber plants was received in March, 1906, when Mr. J. A. Davy, a Brazilian planter, called at the Royal Gardens and left seeds of the Jequié *Manihot* or Manicobar, the plant to which the name *Manihot dichotoma* has subsequently been given. A large consignment of the same seeds was sent to Kew in October, 1906, by Mr. J. P. Rowe of Bahia, and from these plants were raised for distribution and sent out from Kew in wardian cases on May 23rd, 1907.

A case containing 100 of these plants reached Ceylon in excellent condition. They were at first put out in a nursery, and were finally planted out on October 8th, 1907, on level ground 20 by 20 feet apart. Some of these plants have made excellent growth. The twelve largest averaged 3 inches in girth, 3 feet from the ground in May, 1908, and 6 to 7 inches in November, 1908. Some months ago these trees began to produce seeds, of which a small number has been distributed. It is, of course, too early as yet to begin any experiments in tapping the trees, but the

DROP OF LATEX OBTAINED ON PRICKING THE STEM APPEARS TO BE
DECIDEDLY RICH IN RUBBER.

A further large supply of Manicobar seeds was received from Kew in October, 1908. These included, in addition to the Jequié Manicobar, *Manihot dichotoma*, already mentioned, a second kind, the Remanso Manicobar or *Manihot piauihyensis*, which is said to be superior to the former in many respects. Two thousand seeds of each species were sown at Peradeniya on November 2nd, 1908, whilst others have been planted at Maha Illuppatama, Henaratgoda, and elsewhere. Out of 200 seeds of the *Dichotoma* sown at Henaratgoda, practically all germinated, so that there is every promise that the Department will soon be in possession of a good supply of plants. At Peradeniya the germination was not so good, and only very few plants of the Remanso variety have appeared.

The three species of Manicobar which have been botanically described—*Manihot dichotoma*, *M. piauihyensis*, and a third *M. heptaphylla*, seed of which we have not yet succeeded in obtaining in Ceylon—occur wild in the Provinces of Bahia and Piauihy in Brazil in latitudes ranging from 8 to 15 degrees south. So far much the

FULLEST ACCOUNT OF THESE PLANTS IN THEIR NATIVE COUNTRY

is that given by Dr. Ule in the *Tropenpflanzer* for December, 1907, a translation of which appeared in the *Tropical Agriculturist* for March, 1908. From this account it appears that these species grow naturally in a much drier and more mountainous country than the Pará Rubber (*Hevea brasiliensis*):—

"Here *Manihot dichotoma* grows in the true Catinga forest, and is especially abundant on the mountain spurs. The more park-like regions where individual trees stand scattered is avoided by *M. dichotoma*, which prefers a rather more thickly-wooded country. It develops best on a red loamy soil, and is less frequently to be found on a sandy substratum. Within a few miles of Porto Alegre on the Rio das Contas, a central station for the production of rubber from this species of Manihot, I have seen the mountain spurs so thickly covered with this tree that it made up almost half the total forest."—(ULE).

For an account of the methods employed in tapping these trees in a wild state, and of the yield so obtainable, reference may be made to the above-mentioned translation of Dr. Ule's paper. We are now more directly concerned with the value of Manicobar rubber as a cultivated product when planted on estates. Dr. Ule gives it as his opinion that the wild thickets of *Manihot dichotoma* will very soon cease to have any value as a source of rubber. The export of rubber from the State of Bahia is said to have increased more than ten-fold between the years 1900 and 1906, that is to say, from 100 tons to over 1,100 tons, but very little of this was from plantations. Recently, however, large areas in this district appear to have been planted up with these Manicobars and from the accounts given by Ule and others the success of these under takings seems to be assured.

It appears from the *Agricultural News* of October 17th, 1908, that this export fell off somewhat in 1907. This result is probably to be ascribed to general trade depression and not to any failure in the estate product. It is also possible that the collection of wild rubber may fall off more rapidly than can be made up for by the increase in estate produce. The

RECOGNISED DISTANCE FOR PLANTING IN BRAZIL

would appear to be at the rate of 1,000 trees per acre, that is to say, 6 or 7 feet apart, and Dr. Ule speaks of yields of a ton of rubber per acre from such plantations. The *Kew Bulletin* quotes Mr. Rowe, a resident of the country, to the following effect:—

"Our plantations are mostly formed of young seedlings taken from the forest, which contain vast numbers. They are transplanted 1,000 to the acre, and they do not appear to be too crowded. The transplantation causes no apparent set back, and the close planting has a good effect in keeping down the scrub and undergrowth. At three years old cultivated trees have yielded 7 ounces of rubber on the average."

As regards price, Mr. O'Sullivan Beare, H. B. M. Consul at Bahia, report ed in 1907 that a Planter established in the Jequié District prepared a considerable quantity of rubber obtained from Manicobar trees growing wild in the neighbourhood and despatched it to New York. The consignment was classified in the New York Market as being

EQUAL TO THE BEST PARA RUBBER, AND FETCHED 5s. A POUND.

The following advantages are claimed by Messrs. Vilmorin for the new rubbers, as compared with ordinary Ceará:—The latex is not so thick; it coagulates less rapidly, and is therefore easier to deal with; it yields a rubber of much higher quality. Secondly, it contains a much larger proportion of pure dry rubber. Lastly, the yield is greater. Whereas the raw-rubbers of Ceará and Piahy give only 60 to 67 per cent. of pure caoutchouc, the proportion obtained from *Manihot dichotoma* varies from 70 to 92 per cent. These figures do not, of course, refer to plantation rubbers.

It is possible that some of the statements which we have quoted in the above Notes may be of a more or less Utopian character. Still the opinion of

Dr. Ule and of Messrs Vilmorin is largely confirmed by the independent authorities quoted in the *Kew Bulletin* and it seems clear that the new rubbers are

WORTHY OF AN EXTENSIVE TRIAL IN THE DRIER DISTRICTS OF CEYLON.

The choice of one or the other of the three species which have been described will probably depend for the present upon the supply of seed. Of *Manihot heptaphylla*, which Dr. Ule seems to regard as somewhat the best of the three, no seed is at present available. Of the two remaining species, *M. dichotoma* is said to be the better for planting on a heavy clay soil and *M. piauihyensis* for light sandy soils. On the other hand, it must be pointed out that *M. dichotoma* is growing well at Peradeniya, on land which cannot possibly be called a heavy clay.

Manihot dichotoma germinates most easily of the three, and it appears to be quite unnecessary to file the seeds of this species before planting. Dr. Ule also states that the rubber from this species fetches a higher price than that from either of the others. On the other hand, he states that the yield from the two remaining species is decidedly greater. In the most recent article seen (by a Bahian planter in the *Journal d'Agriculture Tropicale*), *M. dichotoma* is regarded as decidedly the best of the three species. On the whole, the conclusion seems to be that any one of the three is very well worth a trial.

Except possibly on land like that under the tanks of the North Central Province, which is readily capable of machine cultivation, close planting at 8 by 8 feet, or even less, is to be recommended. A reservation may also be made in the case of the first few acres of land planted, where it may be worth while to give the trees plenty of room in order to encourage the production of seed at an early age. But if our own experience of trees flowering at one year old is repeated, there should be no lack of seed in a few years' time. Having trees at Peradeniya with more than a year's start of the rest of Ceylon, it is perhaps legitimate for us to entertain the hope that suitable methods of tapping the trees and of preparing the rubber may be worked out there by the time the crop begins to be at all widely established.

The New Rubber Tree with Marvellous Yield.

MANIHOT DICHOTOMA.

Messrs. Honey and Thompson, Rubber Growers, London, have written to the Press:—

The immense productiveness of the *Dichotoma* tree is admitted; but its yield *excels*, per acre, the other two species *M. heptaphylla* and *M. piauihyensis* recently discovered, and is second to none in yield. The idea that it is less has been created by a paragraph in the *Kew Bulletin*, where its yielding capacity has by error been wrongly stated.

The *Dichotoma* tree can be tapped so often that frequently the yield from mature trees produces from 10 to 11 lbs. of rubber a year.

The method of tapping *Dichotoma*—i.e., by the ordinary straight or sinuous or herring-bone cut—produces a much cleaner latex, and is free of the sand which mingles with the other two kinds. Further, the price obtained is much higher, and some consignments on the New York market have been classified as equal to the best Pará rubber, and have fetched 5s. per lb.

The tree is very hardy, grows rapidly, and is remarkably immune from the attacks of ants and other insects. Frequent tapping seems to have no effect on it.

Its enormous yield will undoubtedly soon rival Hevea and place the cultivation of Ceará outside the consideration of practical growers, as the care required in its cultivation is considerably less than in either of these, and the reduced cost of the wages bill will be found an important item in producing or increasing the dividends.

The *Dichotoma* can be tapped when three years old, and can be planted in rows two metres apart, or 1,250 trees to the acre, as it is a small tree, attaining a height of about 25 feet, with trunks from 6 to 7 inches in diameter and 18 or 20 inches in circumference.

Getting to the district where the *Dichotoma* or *Manicoba* tree grows presents almost such insuperable obstacles that a combined journey to the centre of Tibet and a subsequent crossing of the Sahara may in comparison be considered to be far more easily accomplished.

Large areas in Ceylon, India, and the Straits Settlements will be found remarkably well adapted to the production of the new rubber.

The seeds have a hard outer shell, can be transported without suffering any damage, and can be planted practically at any time of the year.

The Chief Rubber Markets of Europe.

LONDON vs. ANTWERP.

DETAILED COMPARISON OF CHARGES.

The *Times of Ceylon* publishes the following "Communicated" article:—

The fiscal question, about which there is so much controversy, has led to a discussion of the fate of the port of London. The President of the Board of Trade has made personal enquiries on the working of the two big European Ports, Hamburg and Antwerp, with the result that a Bill is now coming forward.

Ceylon, though far away, is directly affected, as most of its produce goes to London. It is all-important for the Planting Community to realise that other ports may offer more advantageous terms than are obtainable in London. Antwerp, which is rapidly growing into one of the most important rubber-distributing centres for the Continent, may conceivably prove a formidable rival to London in the sale of products from British Colonies. It is not difficult to demonstrate that at the present moment the advantages are all on the side of Antwerp. This may come as a surprise to most of the readers of the *Times of Ceylon*, who are too apt to take for granted the pre-eminence of London. The figures now placed at your disposal are *bona fide* ones, fully up-to-date, and are worth the attention of the planters whose estates are not yet in bearing, and who are naturally anxious to find the best market for the sale of their rubber. Below is a comparison, item for item, of the charges made in Antwerp and London on a consignment of rubber:—

DISCOUNT.—Antwerp charges 2 per cent.; London charges 2½ per cent. and a draft of ½ per cent.; i.e., Antwerp is 1 per cent. to the good.

BROKERAGE.—½ per cent. in both cases.

FREIGHT. In most cases the freight is prepaid, and owing to the shipping ring both markets are on all fours.

LANDING CHARGES, FEES, ETC.—In Antwerp f.1'25=1s. 0d. per 1,000 kilos (2,205 lbs) In London 5½ per 1 cwt (112 lbs.)

INTEREST.—The interest charged in Antwerp for advances against consignments is usually only 4 per cent., whereas London Houses generally charge 5 per cent.

MARINE INSURANCE.—Is usually effected by the shippers and is about the same.

CUSTOMS CHARGES.—Are about the same in both ports, and are a negligible amount. The same may be said of

SALE CHARGES.—i.e. cost of cataloguing, &c.

SAMPLING, REFILLING, &C.—In Antwerp the rate is f.1'20 = 11½d. for 100 kilos gross = 220 lbs. ; and are all lumped together under this heading. In London these charges are divided as follows :—

(a) Opening, taring, filling ; (b) Re-weighing, 2d. per cwt. ; (c) Sampling and re-taring.

All that can be shewn on this item is that an account sale for over 3,700 lbs. in London cost £3 19s. 1d. ; whereas had the consignment been made to Antwerp, the total charge on this heading would have been only 16s. 3d. !

RENT.—In Antwerp the charge is 20 centimes per month for 100 kilos nett = 220 lbs. In London it is ½d. per week or 2d. per month for 112 lbs.

INSURANCE.—In Antwerp the charge is per month ¼ per cent. on 1,000 francs. On £100 = 2,500 francs, the cost would be f.1'25 (1s). In London it appears to be 1/6 per £100 for the same period.

To sum up, 1 per cent. is saved in discount. The landing charges seem to be either ridiculously low in Antwerp or ridiculously high in London ; there being a 500 per cent. difference. The same may be said of the sampling, taring, refilling, &c., being eight times as much in London. In rent there is only a 100 per cent. advantage to Antwerp ; whilst in insurance this advantage drops to a modest 50 per cent.

Despite these advantages many may argue that what is gained by lower sale charges is lost by a lower average gross price. A consecutive list of account sales over the same period from the two markets would show, without exception, that the average gross price in Antwerp is generally ½d. to ¾d. per lb. better than in London.

This advantage seems to be due to the system of selling that obtains in Antwerp, *viz.*, the sale by private tender or inscription—a system obviously to the advantage of the seller, who is thereby removed from all fear of a combination. The catalogues with a full description of the lots to be sold are published a month ahead, so that purchasers have every opportunity of testing the rubber they wish to bid for. It is stated that this is a great difficulty in London, and a case is known where a manufacturer who wished to buy direct was unable to do so, owing to the impossibility of obtaining samples in advance of the sale. The Continental market seems as catholic in its taste for all forms of rubber as Ceylon planters seem to be in their methods of production—sheet, crepe, worms, balls, flake, blocks, biscuits.

It seems in the face of all these advantages claimed for the Antwerp market that at least a trial should be given, and doubtless many shareholders will in time press their Directors to consider the question of dividing their shipments between London and Antwerp.

How to Obtain Pale Rubber.

There being a difference in price of over 30 cents per lb. between pale and darker biscuits and crepe, "Onlooker," in the *Time of Ceylon*, describes a practical application of the principle of destroying enzyme with slight modifications :—

"When coagulating the many vessels containing the latex were stood in another large vessel containing hot water of about 160° Fahrenheit, and kept at that temperature. The coagulation took place much quicker than that coagulated in the ordinary way. The rubber when manufactured was of a very uniform pale colour. Result over 30 cents per lb. greater average price than the other estate that coagulated cold.

"Assuming that by this method one's rubber sells for only 3d. per lb. more, is it not worth doing ? The only extra cost, apparently, is the value of the water and firewood and a thermometer, and the labour in boiling the water. On an out-turn of 50,000 lbs. rubber it means a difference in profit of Rs.9,000, which is worth looking for. On the 'hot water' estate all collecting cups, carrying pails, and coagulating pans were daily washed in this hot water, and were always kept perfectly clean ; not so on the others."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

VOL. IV.]

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[No. 5.

U. P. A. S. I.

INCORPORATED.

The Scientific Officer.

Mr. R. D. Anstead, who has been appointed by the Secretary of State for India for work in connection with the Planting Industries of Southern India, has arrived in Bangalore and will take up his duties as Scientific Officer to the U. P. A. S. I. as soon as a formal transfer of his services has been made.

It was only on the 2nd May that the Secretary of the Association received from the Government of Madras a copy of an official memorandum to the Board of Revenue reading as follows :—

The Board of Revenue is informed that a Scientific Officer has been appointed by the Secretary of State for work in connection with the Planting Industries of Southern India and that he is expected to arrive in Bombay early next month. He has been recruited as a Member of the Indian Agricultural Service on the understanding that he will be under the control of the United Planters' Association of Southern India, Bangalore. The Government of India have been asked by telegram to direct the officer to report himself for duty to the Commissioner of Agriculture, Madras. The Board is requested to arrange for the officer's work in consultation with the United Planters' Association of Southern India. Formal orders regarding the appointment will be issued in due course. Copies of G. O. and letter Nos. 37 and 28, dated 7th January, 1908, and of letter to the Government of India No. 1065 A/08-2, dated 16th June, 1908, are enclosed for the information of the Board.

From the Board of Revenue, Madras, later, came a copy of that Board's Proceedings No. 1551 Mis., dated 7th May, 1909 :—

The memorandum of the Government of Madras which was quoted in Circular No. 32/09, dated 3rd instant, was read. The Proceedings are then reported as follows :—

READ also letter from the Secretary, the United Planters' Association, Southern India, dated 3rd May, 1909.

[RESOLUTION.]

The Government Memorandum read above will be communicated to the Director of Agriculture for information.

2. With reference to his letter dated 3rd May, 1909, the Secretary to the United Planters' Association of Southern India is informed that the Board has no information regarding the date of arrival of the Scientific Officer beyond that contained in the Government Memorandum referred to in his letter. As soon as intimation of the probable date of arrival of the Scientific Officer reaches the Board, the Secretary to the United Planters' Association, Southern India, will be communicated with,

[INCLOSURES.]

Copy of letter from the Secretary to the Government of Madras, Revenue Department, to the Honourable the Resident in Mysore, Resident in Travancore and Cochin, Honourable the Chief Commissioner of Coorg, No. 38, dated 7th January, 1908 :—

The United Planters' Association of Southern India, Bangalore, has applied to this Government for the services for a period of three years of a Scientific Officer to be employed solely under the control of the Association. The Association states that the officer is required to conduct experiments and investigations on behalf of the Planting Communities in Southern India, with a view to develop and improve the industries in which they are interested, especially that connected with Tea. The Officer should primarily be an Agricultural Chemist, possessing also a fair knowledge of both Mycology and Entomology. Towards the cost of entertaining such an expert, the Association promises a contribution of Rs.3,000 a year for three years from subscriptions promised to it by the various District Planting Associations.

2. His Excellency the Governor in Council considers that the proposal to employ an expert to assist the Planting Communities of Southern India is a good one, but that such an expert would probably require a five years' engagement at least, as it must take him some time to acquire a good knowledge of the problems submitted to him. The salary at which such an expert could be obtained on a five years' agreement may be estimated at Rs.9,000 a year, which with travelling allowances and other expenses would probably bring the total to Rs.12,000 a year. As the Planting Communities who will be benefited by the appointment of the expert exist not only in the territory subject to this Government, but also in Travancore, Cochin, Mysore and Coorg, His Excellency in Council considers that the Governments and Durbars concerned might reasonably bear a share of his cost roughly proportionate to the Planting area in the territories subject to each Government or State.
3. These proportions cannot be accurately ascertained, but approximately the area devoted to Planting is distributed as follows :—

	Total area of estates.	Area under actual culti- vation.	Approximate percentage of area under culti- vation to total area under culti- vation.
British territory in the Madras Presidency ...	ACS. 133,055	ACS. 65,278	44·7
Travancore	50,500	39,097	26·8
Cochin	10,050	10,050	6·9
Mysore	30,297	15,645	10·7
Coorg	21,899	15,924	10·9
Total ...	245,801	145,994	100

4. I am to suggest that the cost of the proposed expert may be divided in somewhat similar proportions. After deducting the contribution promised by the United Planters' Association of Southern India, the total cost may be estimated at Rs.9,000 a year. A contribution equal to half this sum, *i.e.*, Rs.4,500 will be made by this Government on condition that the Travancore Durbar contribute Rs.2,000, Mysore and Coorg Rs.1,000 each, and Cochin Rs. 500. The expert

would be engaged and paid by this Government in the first instance. I am directed to ask you to be good enough to ascertain and communicate to this Government whether the let this Government know

Mysore Durbar

Durbars of Travancore and Cochin would be willing to contribute in the manner suggested for a period of five years towards employing the expert.

Copy of letter from the Honourable Mr. A. G. Cardew, I. C. S., Secretary to the Government of Madras, Revenue Department, to the Secretary to the Government of India, Department of Commerce and Industry, No. 1065 A/08-2., dated 16th June, 1908.

With reference to Mr. Gubbay's letter No. 4628-8, dated 13th May, 1908, regarding the proposed appointment of a Scientific Officer to advise and assist the Planting Communities of Southern India, I am directed to state that the appointment will be a Government appointment. The Officer appointed will, however, be lent to the United Planters' Association of Southern India and will work under its control regarding problems specially affecting the Planting Industries of Southern India.

2. The circumstances in which the appointment is proposed are given at length in the Proceedings of this Government, No. 37, dated 7th January, 1908, a copy of which is enclosed. As this Government is unable to spare the services of one of their own officers to the Association, it is proposed to engage a special officer on a 5 years' agreement. The officer will be paid by this Government in the first instance, the cost being subsequently adjusted among the Durbars and Governments concerned in the manner stated in this Government's letter No. 38, dated 7th January, 1908, to which the Travancore, Cochin and Mysore Durbars have already agreed. His Excellency the Governor in Council had intended to request the sanction of the Government of India to these proposals on receipt of a reply from the Honourable the Chief Commissioner of Coorg, but as the matter is already before the Government of India, I am directed to take this opportunity to solicit that sanction.
3. The qualifications required for the officer to be appointed are set forth in Dr. Lehmann's letter dated 28th October, 1907, embodied in the Proceedings of this Government No. 37, dated 7th January, 1908. He should primarily be an Agricultural Chemist, but should also have a fair knowledge of both Mycology and Entomology. The appointment being a special one and for a limited period, His Excellency in Council considers that a monthly salary of Rs.550 rising to Rs.750, by annual increments of Rs.50 may be offered to secure a suitable candidate. The other conditions of the appointment may be the same as those contained in the Rules for Appointment to the Indian Agricultural Service forwarded with Mr. Carlyle's Circular No.9-144-4, dated 10th March, 1908, except that the period of engagement will be 5 years, that Government reserve the power to dispense with the candidate's services for good and sufficient reasons (of which Government shall be the sole judge) before the expiry of the stipulated period and that no pass in a vernacular language will be considered necessary. I am directed to request that, should the Government of India approve of these proposals, they will be pleased to move the Secretary of State to obtain a suitable candidate.

MR. ANSTEAD'S RECORD OF SERVICE.

A brief record of Mr. Anstead's past experience may be appropriately given here, if only to show that work on behalf of Planters has long been familiar to him.

Mr. Rudolph D. Anstead, B. A. (Cantab.), graduated at Christ's College, Cambridge, in October, 1896, Scholar and Prize-holder. In 1899 he took an

honours degree in the Natural Science Tripos—Subjects : Chemistry, Botany, Physics and Mineralogy. In the year 1900, his fourth at Cambridge, he underwent a training in Agriculture and Agricultural Chemistry.

In 1900-01 he was a Works Chemist in the North of England, and also worked in a London Laboratory. In the latter of the above years he went over to Barbados, British West Indies, as Assistant to the Government Chemist; and was in charge of sugar analyses, food and drugs, fertilisers and the rum refinery. In 1903 he was appointed Assistant Chemist to the Imperial Department of Agriculture for the West Indies; he helped with the general chemical work of the department, and was in special charge of the sugar-cane and cotton experiments.

Appointed in 1905 Agricultural Superintendent in charge of Grenada and its Dependencies, Mr. Anstead became Head of the Local Agricultural Department. He organised Experiment Stations, lectured, and carried out the general work of a big department; and in addition to being a Chemist was Mycologist and Entomologist.

He has been occupied with the chief crops of the West Indies until quite recently, and studied in particular Sugar, Cotton, Cacao, Nutmegs, Spices, Coffee, Timber, Rubber, Starches, Maize, Citrus and Fruits

Arriving here on the 14th May, Mr. Anstead was able to meet the Chairman of the U. P. A. S. I. on the 16th idem, and to discuss plans with that gentleman at some length. Since then he has been fortunate enough to make the personal acquaintance of a number of Planters, with whom various matters have been talked over.

It is proposed that in the first place, Mr. Anstead should pay a short visit to Coimbatore in order to see the College of Agriculture and Research Institute and the Government experts there; and that he should subsequently proceed to the various Planting Districts, to learn something about local conditions and wants, and to get into personal touch with members of the community whose interests he hopes to advance.

Further plans may be mapped out at the next Annual Meeting of the U. P. A. S. I., when a programme of a year's work will have to be drawn up.

The Indian Tea Cess Committee.

Mr. P. R. Buchanan, fearing that his health will not permit of his representing the Association on the Indian Tea Cess Committee, has asked to be relieved of the responsibility at as early a date as may be convenient.

The South Travancore Planters' Association.

The above Association has been admitted to Membership of the U. P. A. S. I.

Madras Planters' Labour Act.

The special attention of the U. P. A. S. I. has been drawn, by the Nilgiri Planters' Association, to the judgment in a case of alleged crimping that was brought before the Head Assistant Collector of Nilgiris, and dismissed.

This judgment reads as follows:—

In the Court of the Sub-Divisional Magistrate, Coonoor. Judgment in Calendar Case No. 19 of 1909, on the file of the Sub-Divisional Magistrate of Coonoor. Present.—E. W. Legh, Esq., I. C. S., Sub-Divisional Magistrate, Coonoor. Complainant—Mr. A. W. Brodie. Accused—Mathew. Offence—Enticement of labourer under Labour Contract, offence under Section 36 (1) of Act 1 of 1903 M. Finding—Not guilty. Sentence.—Acquitted under Section 245, C. P. C. *Witnesses for Prosecution*—(1) Rev. Veillard, (2) Thomayar, (3) Mr. A. W. Brodie. Description of the accused—Name, Mathew. Father's name, Varid. Caste, Christian. Occupation, Maistry. Residence, Vellur. Age, 67. Date of occurrence—12th March, 1909. Date of complaint—17th March, 1909. Date of appearance—25th March, 1909.

Date of commencement of trial—25th March, 1909. Date of close of trial—25th March, 1909. This case coming on for hearing this 25th March, 1909, the Court delivered the following:—C. C. 1909.

This is a prosecution under Section 36 of the Planters' Labour Act, of 1903.

- (2). The facts which are admitted by the accused and proved by good evidence are as follows:—
- (3). A cooly named Thomea (P. W. 2.) under contract under the Act to a Maistry named Anthoni Muthu to serve on Hill Grove estate, from 30th April, 1908, for one year signed on 12th March, 1909, an agreement with the accused one Mathew to supply him with 50 coolies to work in Mandakayam Estate, Travancore, from 1st May, 1909, and received therefor an advance of Rs.300, the balance of which they deposited with the Roman Catholic Parish Priest of St. Anthony's Church, Coonoor.
- (4). It is contended by the prosecution that the accused's share in this transaction constitutes the offence of "enticing" away labour as defined by Section 36 of the Planters' Labour Act.
- (5). The points chiefly relied on are as follows:—(a) That contracts under the Act being limited to one year, it is not open for the Planter to make a second contract with his labourers within that period and therefore it must have been intended to render illegal, any contract by another person within this period also. (b) That Section 36 uses the word "entice" generally and does not comprise enticement to the attempt to induce men to leave their estate, within the period of their contract. (c) That under Section 32 the contract may be extended by a Magistrate for absence or desertion, and therefore no cooly has a clean sheet, such as to enable him to be legally re-engaged, until his contract has actually expired, without the occurrence of any endorsement.
- (6). It is further pointed out that the Planter is defenceless against the action of an agent who comes to his estate with a bag of rupees and carries away all his labour for the coming year unless he can get the offender convicted under this Section.
- (7). The general intention of the Act can only be gathered from a perusal of all the section as well as for the Statement of Objects and Reasons.
- (8). From these it may be gathered that the Act was primarily intended to provide for penal enforcement of statutory contracts, and does not anywhere, unless under Section 36, contemplate the protection of the employer from competition with other employers in respect of his labour.
- (9). The provision of the Act which restricts the contract to a term of one year, is evidently intended to leave the labourer free to re-engage or not at will, at the expiry of that time.
- (10). Reading the first portion of Section 36 with the latter portion, I do not think there can be any doubt that the act of "enticing" there rendered penal is the act of enticing a labourer to leave his employer, in contravention of the terms of his contract.
- (11). To interpret it as the prosecution suggests, would render it illegal for a cooly to make any arrangements for the future year until he had been fully discharged from his employer for the current year. This cannot have been intended; nor is it incumbent upon him in my opinion to consider the fact that his period is liable to extension by order of a Court, unless at the time of his making the second contract the period has already been extended, in which case he would be contravening his original contract by making any agreement to leave, within the extended period.
- (12). Finally the ultimate cause of the recent competition for labour, on which the whole case turns is the difference of rates (a difference of 50 per cent.) between the Nilgiris and Travancore.

- (13). It is, doubtless, a very serious matter for a Planter to have taken from him labourers who have, year by year, worked for him and to be obliged to search for fresh labour; but I do not see how the Law could prevent competition between employers, nor that this Act, as at present worded, was intended to render penal such competition, within the period of one contract for labour, for the year to come.
- (14). In the particular case under consideration the man Thomea, now employed as an ordinary cooly, has been engaged for the coming year as a Maistry; both contracting parties have secured themselves from any suspicion of contravening the current contract by depositing the advance with their Priest.
- (15). I therefore acquit the accused under Section 245, C. P. C.

(Sd). E. W. LEGH,

25th March, 1909.

Sub-Divisional Magistrate.

Briefly, it has been represented to the U. P. A. S. I. (1) that the decision given in this judgment is not in accordance with the Law; (2) that if it is so, there is obvious need for amendment of the Madras Planters' Labour Act I of 1903. The assistance of the U. P. A. S. I. has been solicited with a view to obtaining a revision of the judgment by the High Court of Judicature, Madras.

Scientific Officer's Papers.

I.—THE CONTROL OF SCALE INSECTS IN THE WEST INDIES.

Under the tropical conditions obtaining in the West Indian Islands, hot sunshine and a high rainfall, while on the one hand vegetation was luxuriant, on the other insect and fungoid pests were equally vigorous. As soon as the balance of Nature was upset by the cultivation of large areas of one particular plant, these pests became a serious menace to the crops.

Among the worst of the insect pests throughout the Islands was the Scale Insect. As many as thirty different kinds were known, all of which did more or less damage to economic plants, few of which escaped attack by some Scale or other. Scales like *Lecanium*, *Pulvinaria* and *Aspidiotus*, which were usually accompanied by a soot fungus which lived in the sugary secretion of the Scales and coated the leaves with a soot-like growth, in some Islands were so serious a pest that they actually prevented the possibility of the cultivation of certain crops. For example, although Grenada was eminently suited to the cultivation of Limes, that industry was quite impracticable there, owing to the prevalence of *Lecanium* Scales.

This being the case, an important part of the work of the Imperial Department of Agriculture for the West Indies, and of the Entomologists, was the study of Scale insects, and methods for their control and destruction.

In some places nothing had been done until the Scales had got a thorough hold of the vegetation, even attacking the wild plants in the jungle, and in such cases it was almost impossible, without the expenditure of large sums of money, and the organisation of a regular crusade throughout the Island, to do anything to check, or even control, the pest. As soon as any particular area was freed from Scales, it was at once re-infected from outside areas and from the jungle.

Attempts, however, were made to control the pest by several different methods, which may be classified as follows:—Direct measures, cultural methods, sanitation, natural enemies, and quarantine.

Direct measures consisted chiefly in spraying with various washes, rosin and soap, and kerosine and soap, mixtures being found the most efficient. Spraying over large areas is not always practicable, and it is more or less expensive; moreover to spray a limited area surrounded by infested plants is of little use, since the sprayed crop soon becomes re-infected from the outside. Despite these difficulties, however, spraying is a valuable and effective deterrent in Scale insect attacks, especially when carefully and constantly

carried out. At the beginning of an attack, when the Scales are making their appearance on a crop for the first time, spraying is most effective, and had it been adopted many years ago when Scales first made their appearance in the West Indies (for they were all introduced), the pest would not have gained the hold upon the vegetation that it now has.

Big trees, such as mangoes, were, as a rule, lopped back to the main branches in the dry weather, and thoroughly coated with whitewash applied with a brush. The new growth was watched, and sprayed if necessary. So long as the trees were fairly well isolated from infected areas this was found to be a good remedy.

Cultural methods were based on the accepted fact that a healthy plant can resist, to a great extent, the attack of an insect pest. By careful cultivation, by forking, and the application of suitable manures, especially those containing nitrogen, a vigorous growth was induced, and the crops made to attain a maximum of health and strength. Trees were pruned so as to let in the air and sunlight, and in fact everything possible was done to produce the most favourable conditions for healthy plant growth. This method produced markedly successful results in checking Scale Insect attack.

Sanitation was also found to be a valuable weapon against Scales. All places which would harbour Scale insects were done away with, all weeds and useless or unnecessary shrubs and trees on which they feed destroyed, rubbish piles were burned, and fallen fruit, hulls, stumps, old roots &c., carefully collected and burned, or buried. In fact it was aimed at making the cultivation, whatever it was, as clean as possible.

Scale Insects are subject to the attack of many natural enemies such as lady-birds and wasps, which feed on them, and certain flies which parasitise them. The idea of encouraging these natural enemies and specially breeding them, is one which has met with considerable success in the United States of America, South Africa and Australia. In the West Indies this method of attack is at present in an experimental stage only. It is a method fraught with many difficulties, and one which, possibly, can only be carried out through the instrumentality of an organised Agricultural Department, but it is a method which is deserving of a thorough trial. In the West Indies a number of indigenous lady-birds are known which feed on Scales, and the parasitic flies are being collected and studied. The idea was to foster the local natural enemies of the Scales and, if necessary, so breed them out in large numbers in protected positions, and free them among Scale infested crops. In addition to this there was the possibility of importing some enemy of Scales from another country and acclimatising it.

Lastly, a system of quarantine was established between the various Islands and the mainland in order to prevent, as far as possible, the introduction into any given island of new insect or fungoid pests. All plants and seeds imported were passed through the Customs House and sent to the local Agricultural officers for examination and fumigation with hydrocyanic acid gas, a process which does not harm the plants, but destroys animal life. Moreover the Agricultural officers had the power to destroy such plants as they considered so badly infected with disease as to be dangerous to the agricultural community, while from time to time it was forbidden by Law to import certain plants from those districts in which it was known that some specially dangerous disease was prevalent.

By a combination of the methods briefly described above war was waged on the Scale Insects with varying success, depending largely upon the general way in which they were taken up by the Planting Community. Individual Planters who adopted these methods, and spent money and energy upon them, were naturally handicapped in places where the general Planting Community would do nothing, but on the other hand in many places the whole community worked together along these lines, and considerable progress was made, not only in keeping the Scale Insects in check, but in actually stamping them out of the cultivations.

RUDOLPH D. ANSTEAD,

DISTRICT PLANTERS' ASSOCIATIONS.

Kanan Devan Planters' Association.

Proceedings of a Meeting held at the Munnar Club on Saturday, the 6th March, 1909.

Present:—Messrs. A. J. IMRAY, H. M. KNIGHT, J. M. BRIDGMAN, M. C. KOEHLIN, E. HUGHES, J. C. STEWART, J. C. ABBOTT, J. C. SWAYNE, H. L. PINCHES, E. HAWKINS, A. J. WRIGHT.

In the absence of the Chairman, Mr. Imray took the Chair.

The Proceedings of the last Meeting were taken as read.

Bodi Mettu Ghat Road.—Mr. Knight explained to the Meeting that he had retraced the upper portion of this road, that is from the end of the new road to the Mettu, which was at present in very bad order and impossible to keep in decent order as the trace was faulty. The new trace, which was 3½ miles long, was at a very much easier gradient. He said it would cost Rs.2000 to cut, and he hoped the money for this would be forthcoming so that the re-cutting of this important road could be completed.

After a long discussion, Mr. Abbott proposed, and Mr. Pinches seconded: "That the following Estates—Munnar, Chokanad, Polivasal, Parviti, Seven-mallay, Letchmi, Nadiar, Nullatani, Karlar and Kolamankai—do contribute at the rate of 2 annas per acre, and Thondamally, Devikulam, Periakanal, Lockhart, Manale, Guduralie, Nettagudi and Surianallé at the rate of 4 annas per acre."—*Carried.*

Travancore Factories' Bill.—The Committee's action in strongly supporting the Resolution on the above Bill, passed by the Central Travancore Planters' Association, was confirmed by the Meeting.

Election of Honorary Secretary.—Mr. J. M. Bridgman was elected Honorary Secretary.

With a vote of thanks to the Chair the Meeting terminated.

J. M. BRIDGMAN, *Honorary Secretary.*

Central Travancore Planters' Association.

Proceedings of the Quarterly General Meeting of this Association held at Fairfield, at 10 a. m., on the 17th April, 1909.

Present:—Messrs. J. A. RICHARDSON (*Chairman*), H. D. DEANE, F. BISSETT, R. P. ROISSIER, H. C. WESTAWAY, C. G. GORDON, Hon'ble V. R. WILBRAHAM, J. F. FRASER, W. MORRES, J. S. WILKIE, F. E. THOMAS, A. H. MEAD, F. G. KNAPP, H. HODDING (*Assistant Superintendent, Cardamom Hills*), L. H. JACOB (*Assistant Engineer*), and T. C. FORBES (*Honorary Secretary*).

The Chairman.

GENTLEMEN,—Before proceeding with the business of this Meeting it is my sad duty to report the death of one of the pioneers of this District. I refer to the late Mr. Parker, who died at Home towards the latter end of last month. His death severs a link with the early days of the Tea Industry in Peermade, and although I cannot claim a long personal acquaintance there are several here who knew him intimately and I know his friendship and advice were highly valued by all who knew him. Since he retired he has always taken an interest in District affairs, and it was only his failing health that prevented him paying a visit to the scene of his labours about a year ago. We would take this opportunity of expressing our deep and sincere sympathy with Mrs. Parker in her sad bereavement.

We have the pleasure of welcoming our new Magistrate, Mr. Hodding, and also Mr. Mead, as representing Hailey Buria, a new estate which has now joined this Association.

The Minutes of last Meeting were confirmed.

In the absence of Mr. H. D. Deane, who is shortly going Home, Mr. J. D. Deane takes his place on the Committee.

Correspondence.**ARRACK TAVERNS.**

Proposed by Mr. Deane, and seconded by Mr. Thomas: "That this Association consider that the five liquor shops, Arooday, Pambanar, Periyar, Kumili and Peruvanthanam are ample for the needs of the District."—*Carried.*

TRANSPORT.

Proposed by Hon'ble V. B. Wilbraham, and seconded by Mr. Mead: "That in the opinion of this Association some system of motor traction from Kottayam to Mundakayam or the 35th mile is feasible and urgently necessary and firms likely to be interested be immediately approached on the subject and that the co-operation of the Mundakayam Rubber Planters' Association be requested."—*Carried.*

A memo. of cart-hire paid by estates during the past year was read:—"The total cart-hire to and from Kottayam was Rs.58,440, and this amount would be much increased if it were not for the difficulty of procuring carts in Kottayam. Of the 201,013 parahs of rice consumed by estates for one year, only 33,203 parahs came by Kottayam, the balance coming by the eastern or Pandya side. For the same reason every year more Tea is being sent by Ammayanayakanoor. This is the more expensive route, but the return Pandya rice carts are available."

CRIMINAL CASES.

Proposed by Mr. Deane, and seconded by Mr. Mead: "That the attention of the Dewan be called to this Association's letter to the Secretary of the Travancore Legislative Council of 17th March last asking for the repeal of Ruling in No. 14 T. L. R. and request his co-operation in having this important matter considered at the earliest date possible."—*Carried.*

"That Mr. E. J. John, B.A., B.L., High Court Vakil, be sent copies of the Correspondence with the Secretary of the Legislative Council and the Dewan and be requested to urge on the High Court to alter the Ruling No. 14 T. L. R. as soon as possible by notice in the Government Gazette."—*Carried.*

CONTEMPLATED INCREASED WATER STORAGE OF THE PERIYAR LAKE.

Resolved—"That the Government be asked for a reply to a letter on the subject dated 17th March."

TRAVELLERS' BUNGALOW AND MAGISTRATE'S HOUSE.

Resolved—"That it is highly advisable the Magistrate is housed close to Cutcherry."

KANJIRAPALLY BRIDGE.

Resolved—"That as the British Resident is expected shortly he be wired to pay particular attention to this bridge on his way here."

DELAY IN DELIVERY OF MADRAS MAILS AT PEERMADÉ.

Resolved—"That the Postmaster-General be again written to."

"The local Postmaster says that the delay is caused by the mail transits not running up to time which should be easily remedied."

FROM THE CHAIR:—**THENI BRIDGE.**

The Theni Bridge has been sanctioned at last, and I see our Planting Member has thanked the Madras Government in Council on our behalf.

We can only hope that when the bridge is an accomplished fact the state of the road between Veerapandy and Kumili will improve, as it is no doubt the difficulty and danger of crossing this raging torrent that prevents the D. P. W. officials from giving this part of the road the attention it requires.

The following papers were laid on the table:—

U. P. A. S. I. Circular No. 24/09

" " " " 23/09

" " " " 17/09

" " " " 22/09

Balance-sheet to end of March, 1909, of Fitter and Forge Account.

With a vote of thanks to the Chairman the Meeting closed.

(Signed) T. C. FORBES, *Honorary Secretary.*

Nilgiri Planters' Association.

*Proceedings of a General Meeting held at the Collector's Office,
Ootacamund, on the 19th April, 1909.*

Present:—Messrs. E. G. WINDLE, W. C. DEANE, J. HARDING PASCOE, J. S. NICOLLS, A. S. CRUM, L. R. PORTER, T. J. KENNA, A. R. PIGOTT, W. FRANCIS (*Honorary Member*), B. KIDD (*Visitor*), and F. M. COCKBURN (*Acting Honorary Secretary*).

1. Proceedings of last Meeting taken as read

2. *Labour Difficulties*.—Read and recorded letters *re* cases of crimping from Messrs. J. McKenzie, L. L. Porter and A. G. Nicholson.

Proposed by Mr. F. M. Cockburn, and seconded by Mr. L. L. Porter: "That in view of the present state of the law, the U. P. A. S. I. be asked to use their influence in regard to the settlement of inter-district difficulties."—*Carried*.

3. *Thefts of Tea*.—Read and recorded letters from Messrs. J. S. Nicolls and J. McKenzie.

Proposed by Mr. Nicolls, and seconded by Mr. Porter: "That in view of the frequent occurrence of thefts of tea, Government be asked to afford Tea Planters the same protection by statute as is now afforded to Coffee Planters."—*Carried*.

4. *Thefts of Coffee*.—Reported by Mr. Deane several cases of coffee-stealing on Kil Kotagiri side, and that one of the thieves and a receiver had been convicted and sentenced to 6 months and one year's imprisonment, respectively, and that the gang was now believed to have been broken up.

Proposed by Mr. Pascoe, and seconded by Mr. Deane: "That the informers instrumental in proving the offences be rewarded with the sum of Rs. 25 each out of the funds of the Association."—*Carried*.

5. *Visit of Sir Roper Lethbridge to South India and visit of Mr. Romilly to Ceylon*.—Mr. Deane proposed, and Mr. Kenna seconded: "A very hearty vote of thanks to Sir R. Lethbridge and Mr. Romilly for their good offices."—*Carried*.

6. *Representation on the Committee of Industries*.—Read letter from the Director of Industries, inviting a Committee to join in order to represent the Planting Industry. Resolved to record the thanks of the Meeting to Government for the invitation, but at the same time to record the opinion of the Meeting that the Planting community is already well represented by its Member of Council.

7. *Scientific Officer to investigate Green Bug*.—Read letter from the Honorary Secretary, Shevaroy Planters' Association, asking whether this Association would join with them in requesting Government to lend a Scientific Officer to investigate the Green Bug.

Recorded the opinion of the Meeting, that no investigation can carry results of any great value, unless extended over a considerable period.

Proposed by Mr. F. M. Cockburn, and seconded by Mr. J. Harding Pascoe: "That the Association communicate with the U. P. A. S. I. on the subject, and that the Shevaroy Planters' Association be asked to do the same."—*Carried*.

8. *Sale of Factory Sweepings*.—Read and recorded letter from Honorary Secretary, Wynaad Planters' Association. The Meeting expressed their approval of contents.

9. *Planters' Chronicle*.—Read letter from the Secretary, U. P. A. S. I., *re* the desirability of Planters in general giving their assistance to strengthen the

above publication. The Meeting expressed with thanks their appreciation of the good work already done by the paper.

10. The Meeting closed with a hearty vote of thanks to Mr. Deane for acting as Chairman, and to the Collector for the use of the room.

F. M. COCKBURN,
Acting Honorary Secretary, N. P. A.

Mundakayam Rubber Planters' Association.

Minutes of Second Quarterly Meeting, held at Yendaar Bungalow, on 8th May, 1909.

Present.—J. A. RICHARDSON (*Chairman*), J. J. MURPHY, J. D. DEANE, J. R. VINCENT, H. VERNON TAYLOR, R. E. HASLAM and J. GUDGEON.

The Minutes of last Meeting were taken as read.

Kanjirapally Bridge.—READ correspondence regarding this from the Chief Engineer and British Resident.

The Chairman reported that he had been to Kanjirapally and seen the bridge which was being pushed on as fast as possible. Should the floods continue Mr. Everard, the Executive Engineer, promised to put on a temporary platform to allow carts to pass over. The point Government have not realised is that it is from now till the monsoon, it is so important that the road be clear for traffic to enable Peermade and Mundakayam Planters to lay in rice stocks for their coolies before the monsoon bursts.

Peermade Jurisdiction.—The Secretary was instructed to write and thank Government for meeting our wishes in this matter, but to point out the inconvenience of having the Estates under Kanjirapally Police Jurisdiction and trust Government may see their way to put the District under the Peermade Police control.

Mysore Dasara Exhibition.—READ correspondence regarding the Exhibition to be held in October. Exhibits were promised from Eldorado and Yendaar Estates, which will shortly begin taping.

Motor Transport.—Proposed by Mr. Vincent, and seconded by Mr. Murphy: "That each Estate send in a memo. of their transport for the year, giving separately the amount of rice consumed, and that the figures be supplied to firms interested in the Motor transport scheme."

Committee.—Mr. J. R. Vincent was added to the Committee in place of Mr. Wolde, resigned.

Honorary Secretary.—Mr. R. E. Haslam was unanimously appointed Honorary Secretary in place of Mr. Madden, who has left the District.

Rubber Exhibition.—Resolved that the rebate due from the Exhibition funds to Estates in this District be credited to the funds of the Association.

Scientific Officer.—READ Circular No. 32 from the United Planters' Association, intimating that a Scientific Officer has been appointed, which will fill a long-felt want.

Labour and Rates.—It was resolved to hold a Committee Meeting towards the end of this month or beginning of June to discuss rates, &c.

With a vote of thanks to the Chair the Meeting terminated.

R. E. HASLAM,
Honorary Secretary.

Shevaroy Planters' Association.

Proceedings of a Committee Meeting of the S. P. A, held at the Victoria Rooms, Yercaud, on 10th May, 1909.

Present :—Messrs. J. C. LARGE, C. RAHM, B. KIDD, C. G. LECHLER, and CHAS. DICKINS (*Honorary Secretary and Chairman*).

READ letter No. 762, dated 18th March, 1909, from L. E. Buckley, Esq., Collector and District Magistrate, *re* closing of liquor shop at Puthoor Village; also his letter No. 548, dated 22nd April, 1909, *re* Feeder Road on Shevaroy.

Resolved :—"That on thanking the Collector for his courtesy in offering to discuss the matter of liquor shops personally with the Planters, that Mr. Buckley be also requested, kindly, at the same time to discuss the Feeder Road question."

READ letter No. 469, dated 27th March, 1909, from L. E. Buckley, Esq., Collector and District Magistrate, *re* excessive valuation on Government Forest Land applied for by Mr. Cobbe.

Resolved :—"That the Collector be thanked for so kindly meeting the wishes of the Association in this matter."

READ letter dated 17th March, 1909, from Mr. A. G. Nicholson, *re* loss of advances by death of Contractor and best means of remedying the defect.

Resolved :—"That the Honorary Secretary inform Mr. Nicholson that it is the opinion of this Committee that the only alternative to his method of contract is for the Estate owner to make a separate personal contract with each cooly."

READ letter dated 6th April, 1909, from Mr. A. G. Nicholson, *re* Estate rates.

Resolved :—"That the Committee require more time to go through the rates thoroughly before they can express any opinion."

READ letter dated 24th April, 1909, from Mr. A. G. Nicholson, *re* permit of Cart Brakes.

Resolved :—"That the matter be deferred to the coming special General Meeting to be called for shortly."

READ letter dated 10th April, 1909, from Mr. A. G. Nicholson, *re* the best means of eradicating Palmy Bug.

Resolved :—"That Mr. Nicholson be thanked for his interesting letter and that it, with his kind permission, be printed and circulated among the Members."

READ letter dated 27th April, 1909, from Mr. Gaudine, Forest Range Officer, Salem, stating that the price of a Bamboo Permit has been increased to 3 annas.

Resolved :—"That the Honorary Secretary write to the Collector and Magistrate pointing out that this increase forms a heavy tax on the Coffee industry to which bamboos are an absolute necessity in many ways."

READ and recorded letter No. 927, dated 24th March, 1909, from the Hon'ble Mr. J. Twigg, Commissioner of Land Revenue, *re* Game Bill.

READ and recorded Circular No. 18/09, dated 8th March, 1909.

Do. do. do. No. 19/09 do. 18th March, 1909.

Do. do. do. No. 21/09 do. 24th March, 1909.

Do. do. do. No. 22/09 do. 1st April, 1909.

Do. do. do. No. 25/09 do. 6th April, 1909.

Do. do. do. No. 26/09 do. 6th April, 1909.

Do. do. do. No. 24/09 do. 7th April, 1909.

Do. do. do. No. 29/09 do. 10th April, 1909.

Do. do. do. No. 30/09 do. 13th April, 1909.

Do. do. do. No. 33/02 do. 3rd May, 1909.

CHAS. DICKINS, *Honorary Secretary and Chairman.*

PLANTERS' ASSOCIATION OF CEYLON.

MEETING OF THE GENERAL COMMITTEE.

Extract from Minutes of Proceedings of a Meeting of the Committee of the Planters' Association of Ceylon, held at Kandy, on Friday, the 14th May, 1909.

ANCHYLOSTOMIASIS IN THE TROPICS.

Read despatch from the Secretary of State for the Colonies regarding the above subject, forwarded by the Colonial Secretary for the consideration of the Planters' Association.

The despatch summarises the conclusions arrived at by His Lordship after perusing the report of the Committee which had been sitting, under the presidency of Sir Patrick Manson, at the Colonial Office, to consider what measure could be recommended for the prevention of anchylostomiasis in the Colonies affected by that disease, and after detailing these, proceeds:—

"In these circumstances I think that no hardship can be involved in compelling estate owners, local bodies, and private persons to take such reasonable precautions as experience has shown will minimize the constant drain on the resources of the community which the existing state of affairs involves."

It was further stated that a despatch in identical terms was being addressed to the Governors of the West Indian Colonies with the exception of those in which the disease is reported to be unknown.

After discussion, it was resolved: "That the following be appointed a Sub-Committee to draft a letter to Government on the subject, the Honorable the M. L. C., the Chairman, and Secretary, P. A."

EXHIBITIONS.

Read letter from Mr. A Staines Manders intimating that it is proposed to hold the next International Rubber and Allied Trades Exhibition in London in May (or June), 1911.

ANTI-TEA-DUTY LEAGUE.

Submitted correspondence and tabled copies of various home newspapers in which articles and letters by the Secretary of above League had appeared.

EXTRACTS FROM THE REPORT OF THE ACTING CURATOR, ROYAL BOTANIC GARDENS, PERADENIYA.

The packing of Pará rubber seeds is the subject of much difference of opinion, but some valuable and interesting information has been gained during the year. On August 25th, 1,500 seeds, packed in powdered charcoal and coir dust (mixed in equal parts and slightly damped) in ordinary biscuit tins, were despatched to India; the consignee could not be traced and the seeds were returned here on November 4th, or 72 days after despatch; they were at once sown in an open bed, and no less than 496 plants were raised, the last seed germinating on December 20th, or 144 days after gathering. This number would have been exceeded had not porcupines visited the bed and routed out the seeds a week or two after germination had commenced. Out of 1,000 seeds forwarded to the Botanic Station, Seychelles, 750 plants were raised.

The Curator of the Rhodes Matopo Park, S. Rhodesia, writes that he has obtained very successful germination from Ceará rubber seeds soaked in water for three weeks before sowing, instead of adopting the old method of filing the seeds,

TEA.

Tea Cultivation In Ceylon and Caucasus.

The following letter will appear in the Journal of the Ceylon Agricultural Society :— Moscow, 21st March—3rd April, 1909.

SIR,—In the "Supplement to the *Tropical Agriculturist*, Vol. XXXII., No. 4, October, 1908, page 396: Russia's Caucasian tea" is read:—"Comparisons made between the tea produced in the Caucasus and that produced in Ceylon all show clearly in favour of the Caucasus," says the Journal. "After a 13 year's trial, the Caucasian field yield 146 lbs. an acre to 14 lbs. only from the Ceylon plantations—ten times less." To these lines a remark is added, that the Russian Journal has taken too little care of the Ceylon yields per acre.

The "Pharmatzeritschesky Journal," it seems, has copied figures without duly enlightening them from my Report of 1906. Therein the Table No. 4 is read as follows:

The productiveness of the Tea plantations in Ceylon, as compared with the Tea plantations on the Caucasus estates of Constantine Popoff, during the first 13 years of their existence.

CEYLON.

Year.	Number of cultivated acres.	Sale in lb.	Years.
1867 ...	10	none	First.
1868 ...	200	"	2
1869 ...	250	"	3
1870 ...	250	"	4
1871 ...	250	"	5
1872 ...	260	"	6
1873 ...	280	23	7
1874 ...	350	492	8
1875 ...	1,800	1,438	9
1876 ...	1,750	757	10
1877 ...	2,720	2,105	11
1878 ...	4,700	19,607	12
1879 ...	6,500	95,969	13
1900 ...	—	150,000,000	—

PLANTATIONS OF CONSTANTINE POPOFF.

Year.	Extent of cultivated land.	Sale of lb. of Black Tea. (Tablets of tea and pills not included).	Years.
1893 (	13 dessateens of nurseries and 127 dessateens of plantations. } = about 384 acres.	none.	First.
1894		"	2
1895		20	3
1896		37	4
1897		1,300	5
1898		2,900	6
1899		3,610	7
1900		846	8
1901		9,300	9
1902		17,027	10
1903		16,833½	11
1904		34,655	12
1905		56,346	13

The tables show that the comparison of the Ceylon yields (1867—1879) is made exclusively with *one* plantation belonging to me. They indicate that the increasing of Ceylon yields resulted on the increasing amount of cultivated acres. The increasing of yields of my plantation had not such a dependence, as the amount of cultivated acres remained all the time the same.

The details about my trial of Tea culture in Trans-Caucasus can be read: *The Tropical Agriculturist*, Vol. XXXI., No. 5, November, 1901.—Yours faithfully,

CONSTANTINE POPOFF,

COFFEE.

Export Duties on Coffee.

The Tariff Bill under consideration in the U. S. House of Representatives provided "that if any country, dependency, province or colony shall impose an export duty or other export tax or charge of any kind whatsoever, directly or indirectly, upon Coffee exported to the United States, a duty equal to such export duty, tax or charge shall be levied, collected and paid thereon."

The following statement shows the countries which impose export duties or taxes on Coffee, the units for taxation and rate. A column is added showing the equivalent of such tax in United States currency on 100 pounds of Coffee:—

Countries.	Unit.	Rate of duty.	
		Foreign currency.	U. S. equivalent, 100 pounds.
Belgian Congo	100 kilos.	3 francs	\$80.263
Brazil—			
Rio de Janeiro	Kilo.	29.75 reis	.411
Minas Geraes	<i>Ad valorem.</i>	8½ per cent.	.....
Sao Paulo	Kilo.	41.4 reis	.57
Ceylon	Cwt.	0.10 rupee	.029
Dominican Republic	46 kilos.	\$0.15	.1485
Ecuador	Kilo	0.005 sucre	.11
French Congo	<i>Ad valorem.</i>	5 per cent.	.....
French Somali Coast Protectorate.	100 kilos.	1 franc	.0088
Guatemala	101 pounds.	\$1	.99
Haiti—			
Coffee	do.	\$3	2.97
Coffee, broken and residues of...	do.	\$2.50	2.475
Nicaragua	100 pounds.	\$0.40	.40
Portuguese Possessions—			
Cape Verde Islands	Kilo	4 reis	.20
Congo	100 kilos.	1\$680	.825
San Thome and Principe—			
To Portuguese ports	Kilo.	16 reis	.78
To foreign ports in foreign vessels	do.	45 reis	2.21
To foreign ports in Portuguese vessels	do.	30 reis	1.47
Timor	Picul	2\$520	1.99
Salvador—			
From the ports of Libertad and Acatjutla	46 kilos	\$0.40.	.40
Surtax	do.	0.265 pesoa	.10
From the port of La Union	do.	\$0.40.	.40
Surtax	do.	0.51 pesoa.	.194

a Silver.

In addition to the tax imposed by the Brazilian States as given in the above statement, Coffee exported from these States is subject to a further tax of 5 francs per bag of 60 kilos (73.1 cents per 100 pounds). According to the decree of September 12th, 1908, an additional tax of 20 per cent. *ad valorem* is to be levied on all Coffee exported from the State of Sao Paulo in excess of 9,000,000 bags during the crop year commencing July 1st, 1908; in excess of 9,500,000 bags during the crop year beginning July 1st, 1909; and in excess of 10,000,000 bags during the succeeding crop years.

S. Paulo Coffee.

The following Circular was issued to the Coffee trade, under date London, April 27th:—

A Meeting of the Committee charged with the management of the State of San Paulo Government Coffee was held to-day, under the Chairmanship of Baron Bruno Schröder, and the following Members were present:—(1) Dr. Francisco Ferreira Ramos, (2) M. le Vicomte des Touches, (3) the Société Générale, (4) Mr. Hermann Sielcken, (5) the firm of Theodor Wille, (6) Mr. Edouard Bunge, (7) the firm of J. Henry Schröder and Co.

The following statement was approved:—1. With reference to Clause 2 of the Circular dated January 5th, 1909, the Committee states that no sales of Coffee have been made, that the contemplated sale of 500,000 bags will not be undertaken until the trade is ready to pay the price stipulated therein, or its equivalent in any of the markets, and that in no case shall the sales during the current year exceed 500,000 bags. 2. The Government has lately had under its consideration the advisability of replacing the existing law, limiting the export of Coffee, by a new law creating an extra duty of 10 per cent. on all exports of Coffee payable in kind, such Coffee to be destroyed under the control of the Committee. This law would, in the opinion of the Government, bring about the same result as the existing law, but in a more satisfactory manner. The change would appear to the Government to be most desirable, as it would obviate the rush to market the crop, which would undoubtedly take place under the existing law; the Planter would thereby be given time to properly prepare his Coffee, the exports would then, as in former years, be spread over the whole twelve months, and the quality of the Coffee exported would be improved by the destruction of the lowest grades. Such alteration of the law would also be desirable in the interests of the Coffee trade, of labour, and of the Railway and Shipping Companies, and would at the same time assure the stability of the exchange.

The Government has now approached the Committee officially on the subject, having set forth its reasons, as above, for desiring an alteration of the law, and the Committee, after careful consideration of all interests, is of opinion that the proposed change of the law is desirable, and will consider the feasibility of such an alteration. The Federal Government of Brazil is ready to sanction the proposed change in the law.

Mysore Coffee In England.

It will interest Planters in Southern India to know that "Fazenda" Pure Coffee is not being allowed to have the field to itself. Under the auspices of a respectable firm the "Mansion House Brand" of "Pure Mysore Coffee" is being offered, under an attractive label as "From the Counsel of Experience 'The Best.'"

In recent advertisements "Fazenda" Coffee is not eulogised as *the best*, but a telling appeal is made to the trade in the following words:—"23 per cent. on the cost to you and forceful advertising to create trade. Steady custom in the future now being built by judicious publicity everywhere, to every class of buyer."

A brand that is freely advertised at the cost of other people and leaves the grocer 23 per cent. profit on cost is likely to be taken up by him, at least experimentally. To what extent the "Pure Mysore Coffee" is, or is to be, advertised cannot be stated; but if the proposed Coffee Cess were sanctioned by Government, measures might be adopted to give active support to dealers willing to enter into competition with S. Paulo's "Pure Coffee with a Government guarantee."

Mr. T. Petch, in the current number of the "Journal of the Agricultural Society," Ceylon, writes:—

The catch phrase, "the bark is the mother of rubber," is again being pressed into service. This is somewhat unfortunate, since it leads to the same train of erroneous ideas which gained currency some years ago, and causes supporters of various tapping systems to imagine advantages which are certainly non-existent. It would be more correct, though open to scientific objections, to say that the cambium is the mother of rubber, just as it is of wood and bark.

RUBBER.

Rubber Tapping Methods.

GERMAN PROFESSOR'S INVESTIGATIONS.

"*Physiologische Grundlagen zur Bewertung der Zapfmethoden bei Kautschukbaumen.*" (Physiological principles by which to reckon the relative value of rubber-tapping methods) by Dr. Hans Fitting. (Beihefte zum Tropenpflanzer, February, 1909).

Mr. R. H. Lock, of the Peradeniya Scientific Staff, contributes the following review of the above in the current issue of the "Journal of the Ceylon Agricultural Society":—

Professor Fitting visited the tropical gardens of Buitenzorg in 1907 under the system of subsidies provided by the German Government. He there devoted himself to a scientific study of the physiology of rubber bark in its relation to the various methods of tapping in vogue, with the result that he has arrived at conclusions of so much interest to rubber planters, that we do not think any apology is needed for giving a brief account of them. Professor Fitting's investigations draw attention to the fact that the bark of the rubber tree, in addition to being the seat of the formation and storage of latex, also provides the channels through which food substances manufactured by the leaves find their way to the roots and base of the tree. Not only are these food supplies necessary for the growth of the roots and consequently for the general welfare and health of the tree, but they also provide the material from which the actual rubber is formed in the latex tubes. It is, therefore, of the highest importance to preserve the integrity of the channels through which the downward food current passes. Any transverse cut through the bark and penetrating to the cambium will

STOP THE DOWNWARD CURRENT OF FOOD-BEARING SAP

for as much of the circumference of the tree as the cut occupies, and it is well-known that if a tree is completely and effectively ringed it must ultimately die, because in this case the food supply of the roots is cut off altogether. The sloping cut made in all the ordinary methods of tapping, although it does not reach the cambium, also materially checks this downward current, especially if it is combined with the use of the pricker; and the wider the area of bark operated upon becomes, the greater is the obstruction caused in the vitalizing current. It is highly probable that the ill-effects of over-tapping are quite as much due to checking of the downward food supply as they are to the actual removal of latex. Professor Fitting, therefore, joins issue with Mr. Herbert Wright with regard to the well-known dictum of the latter—"The best method of tapping is that which extracts the maximum amount of latex from the tree with removal of the minimum quantity of cortical tissue, and without damaging the thin layer of cambial cells." He maintains, on the contrary, that the

BEST RESULTS WILL BE OBTAINED IN THE LONG RUN

by those methods which leave the widest possible area of free bark unblocked in a vertical direction, and, therefore, advocates such a system as the herring bone or half herring bone, in which only a quarter of the tree's circumference is tapped at a time. Incidentally we may point out that Professor Fitting's observations explain the phenomenon observed by Mr. Chas. Northway in the application of his basal V system. After paring one V at the base of the tree for some time, a second V was started a foot above the old one, and it was found that the yield from this second V was now little less than that from the first, although if two V's are started simultaneously, one a foot above the other, the initial yield from the upper V is very much smaller than that from the lower. This must be due to the fact that the downward stream of food-laden sap is checked by the first basal V, and the concentrated food supply is then used by the cells above in the production of a larger amount of rubber than would otherwise have been formed.

New systems of rubber tapping are in the air, and we strongly recommend Professor Fitting's observations to the serious consideration of the authors of these new systems,

Abnormalities in *Hevea Brasiliensis*.**BURRS AND NODULES.**

In his paper issued by the Royal Botanic Gardens, Peradeniya, Mr. Petch opens by saying that the warts or lumps of woody growth on the trunks of some of the trees, such as would somewhat interfere with easy regular tapping have been the subject of discussion on several occasions, but they do not seem to have received the attention they deserve. Two distinct phenomena are described, each of which can result in the formation of burrs. He goes on:—

In the one case the formation of burrs depends entirely on wounding. In the other it is to some extent a natural habit of *Hevea brasiliensis*, at least in the East, and occurs irrespective of whether trees are tapped or not; it is apparently stimulated by certain methods of tapping. In the first type the wood of the main stem is swollen; in the second, the burr has a central core of wood, which is originally quite separate from the wood of the stem.

1.—BURRS FORMED OVER WOUNDS.

These burrs of the first type are usually small and less important than those of the second. Their formation was explained in the following paragraph in the *Tropical Agriculturist*, September, 1905:—

The specimens submitted consisted of lengths of the stem of *Hevea*, three to four years old, and about four inches in diameter, grown at an elevation of 2,500 feet. The normally smooth bark was interrupted by gnarled patches, circular or irregularly shaped, varying from one-half to three inches in diameter, with a margin formed by the slightly up-turned edge of the normal bark. The smaller patches resembled branch scars, but their number, as many as thirty-six on a length of one foot, showed that this was not correct. On removing the bark the wood beneath was found to be swollen, and sometimes raised in small lumps and thorns, but there was no sign of any fungus. After chiselling out the sound wood to the depth of half-an-inch, thin black patches, about an inch in diameter, were disclosed, and a microscopic examination showed that these consisted of dead elements of wood and barks, thus forming a separation layer between the wood on either face. It is evident that these patches represent injuries incurred by the tree some nine months previously, which have been overgrown by a new layer of wood and bark. The important point, however, is that the extra effort required to accomplish this has not ceased when the gap was closed, but the cambium has continued to produce more than the normal quantity of material, thus making the wood at that point half as thick again as the wood produced in the same time in places where the stem has not been injured. The pressure exerted by this additional material enlarges the external "canker" and prevents the formation of a smooth bark.

Another set of instructive examples was taken from trees about nine inches in diameter. They were probably obtained from the Government plantations at Edengoda or Yatipauwa. The trees had been tapped on the old system of separate V's, which had penetrated to the wood, and the renewed bark was rough. On stripping off the bark the wood was found to be covered with raised V's, corresponding exactly in position with the tapping cuts. The sharp-edged crest of the V-shaped lines was elevated rather more than a quarter-of-an-inch above the normal level. As in the previous case, the extra growth of wood did not show any disease, and the old tapping cut was buried beneath about an inch of new wood.

Further examples may be seen on trees tapped with the sharp-toothed pricker, which penetrates to the wood at every stroke. If the renewed bark is stripped off when a few months old, a series of tripples or small elevations will be found, one for each time the tooth of the pricker cut through the cambium.

Thus, every injury to the wood is reproduced by the new wood "in relief." The explanation of this is simple. At the edge of any wound the cambium

produces a swollen cushion of new wood and bark. This wood is easily recognized in section, as its cells differ in size and shape from normal wood vessels. They are usually of smaller diameter, shorter length, and often irregularly arranged, and constitute what is technically known as "wound wood." The quantity of "wound wood" formed is always greater than that which would have been produced at that spot if the cambium had not been injured, and therefore the pattern or the wound is raised. After a short time the cambium produces normal wood again instead of wound wood, and, theoretically, the gradual growth of the wood of the whole stem should obliterate the "relief pattern." But on the present evidence it does not appear to do so in *Hevea*; certainly if it does, it takes a much longer time than in other trees. It would rather appear that the cambium retains the abnormal activity which enabled it to fill up the wound, and thus continue to form more than the normal quantity of wood over the wounded spots, even when it has reverted to the production of wood of the normal character.

As a rule, this formation does not offer serious obstacles to tapping. The gradual swellings often seen on "renewed" surfaces, and the general convex outline equally common, are in most cases due to this formation. It follows from the facts stated above that the new wood (and therefore the bark) formed over one large wound is smoother than that over half a dozen small woods on the same area. If it were not for the exposure of inactive tissue liable to attacks of fungi, it would be a fit subject for experiment, heretical though it may seem, whether the complete removal of the bark down to the wood would not give a smoother renewal than the system of pricking.

2.—BURRS CAUSED BY "NODULES."

The burrs which interfere with tapping are practically always of the second type. They project abruptly from the stem in a more or less rounded outline, so that the tapping cut cannot be continued across them. This is usually the stage in which the Planter notices them; but, if they are to be economically removed, search must be made for them when the trees are younger and the burrs are small. They may be found on the trunks of many trees four years old, though fortunately not universally.

The bark is at first slightly elevated and forms a small hemispherical lump about the size of a pea, or in some cases the swelling is vertically elongated. If the lump is cut open, there will be found inside a core of wood, either spherical or cylindrical, corresponding to the external shape of the swelling. These cores or nodules are at first symmetrical, without any projecting points, and have no connection whatever with the wood of the stem. They lie wholly in the cortex, separated from the wood and cambium of the stem by ordinary laticiferous tissue. When the surface of the excrescence is cut away, these cores shell out quite easily from the surrounding cortex, separating from it along their cambium layer in the same way as ordinary cortex strips off the wood of a stem. These facts show without any need of microscopic examination that each of the woody cores possesses a cambium of its own, not connected with the cambium of any other knot, and certainly quite distinct from the cambium of the main stem. Each excrescence can therefore increase in size by the addition of new wood to core and new bark to the other issues, quite independently of the growth of the main stem, merely through the activity of its own cambium. A specimen in the Botanic Gardens, Singapore, is "irregularly hemispherical, or rather half oval, and measures eighteen inches across transversely, a foot long vertically, and about eight inches in thickness."

As a rule, several of these small excrescences are produced close together, and, as they increase in size, their cambiums come in contact and the woody cores are fused together. In this way the core becomes irregular. Instances of this fusion are shown in the photograph of Plate 1 A; indeed, not more than five of the cores shown there are simple. If a large number of nodules occur close together, then their fusion produces a large thin plate of wood, as shown in plate 1 B, where the individual cores can still be identified.

As the nodules increase in size, the bark frequently cracks, and it is usually not until then that attention is called to it. In the case of rounded

nodes, a smaller mass of wood is required to produce cracking than in the case of flat, plate-like nodes, because the latter, though larger, are really younger; the rounded node is formed by several years' growth of a single spherical core as a rule, while the plate only represents a large number of recently-formed cores. Such external cracking is, however, not universal.

With increase in size there occurs a change of shape which has led to an erroneous interpretation of the origin of these structures. The inner surface of woody core produces a conical point, which ultimately fuses with the wood of the main stem. In small cores there is only one projecting point, but in the case of plate-like cores, these points may arise all over the inner surface. They are present in the inner surface of the specimen of Plate I B, which has the outer bark still attached, but they do not occur in any way of the other examples. Theoretically, this fusion should progress until the core is completely fused with the wood of the stem, but I have not yet seen such a case, though some of my specimens of cores are 9 cm. long, 8 cm. wide, and 5 cm. thick. The formation of this point appears to be due to the pressure exerted by the developing core, which apparently prevents the formation of normal cortex between it and the wood of the stem at the points of nearest approach.

In some cases the cortex which covers the burr cracks and dries up; no latex can then be obtained by tapping over the burrs, because the only laticiferous tissue lies behind the woody core. In one particular case a tree twelve years old has not yielded any latex, because its stem is covered with these burrs. In rare instances, on the other hand, the whole of the cortex containing the woody core splits away from the wood of the main stem without any external cracking, and the vacant space is filled by a clot of rubber. I have taken three ounces of almost dry rubber from such a situation. Latex may still be obtained by tapping over the burrs on the tree photographed; these are about two years old. It may be noted, as a curious phenomenon not yet explained, that when latex is obtainable by tapping over these burrs, it varies in colour from pale yellow to deep chrome.

A cross section through one of the cores shows that its nucleus consists of a small group of dead bark cells (*cortical parenchyma*), or of the "stone cells" (*sclerenchyma*), similar to those in the pear, which occur in *Hevea* bark. The group is vertically elongated in the case of cylindrical cores. A cambium is developed round this nucleus, and this produces short wood cells and fibres arranged horizontally and more or less concentrically. This concentric arrangement is quite clearly seen when the core is cut across. The wood differs altogether from that normally produced in the main stem, and closely resembles "wound wood." I have, however, one example of cylindrical cores, in which the wood possesses normal vertical vessels, and medullary rays arranged in the same direction as those of the stem without any evident relation to the central nucleus.

The structure of these cores is identical with that of the similar bodies found by Sorauer in the cortex of apple and pear trees and by Krick in the cortex of beech trees. They are usually known as "Knollenmaser" or "Rindenknollen." No reason is at present known for their formation. In the case of the beech, they are sufficiently common to be regarded as a normal feature of the tree. The burrs of *Hevea* agree with all these in showing no trace of insect or fungus injury, and in occurring on surfaces which have not been wounded. Their structure and position in the cortex entirely contradict the theory that they are caused by "dormant buds."

During the last three years I have repeatedly advised correspondents to cut out the cores of these burrs before they attain any considerable size. There is no need, then, to make a large wound. If the outside of the burr is sliced off, the core can be shelled out quite easily. But if they are allowed to grow, they become united at several points to the main wood, and a very ugly wound results when an attempt is made to cut them out. It is very doubtful whether it is worth while to try to cut out large burrs which are united to the main stem, because the injury to the main wood will inevitably prevent the

formation of a smooth renewed bark. The objection has been made that shelling out the cores of small burrs exposes the cambium, and this cambium dies. So it does; but it is the cambium of the burr, not the cambium of the main stem. It must be remembered that where these burrs occur there are two cambiums, at first quite distinct, *viz.*, the adventitious cambium which forms the core, and the normal cambium of the stem. If the first-named cambium dies, then there is an end of burr formation at that point. It is intended to make the experiment of removing large burrs from the renewed surfaces of the Peradeniya trees which were tapped with knife and pricker in 1905-06; all of these now have fairly large burrs.

The production of burrs is not a universal habit of *Hevea brasiliensis*; indeed, they are comparatively rare on untapped trees. It has been previously pointed out (Report of the Mycologist for 1906) that freedom from burrs is a character which should be required in the selection of seed-bearers.

There is nothing to support the statement that these burrs "work out" if left alone. As already described, the core is not attached to the main wood at the beginning, but unites with it after a few months' growth. Nor is it advisable to knock them out with a stick or kick them off. Either practice tends to split the inner bark from the main stem.

Though these burrs certainly do occur on trees which have never been tapped, they are most often found on renewed surfaces about two years after tapping. The illustration (Plate 2) shows one of the Henaratgoda trees which was tapped with knife and pricker in 1906. Three-quarters of the renewed surface is thickly covered with large burrs, which project three or four inches from the trunk. These are now united to the main wood, but a fresh crop of smaller burrs with free cores is developing between them. On the left-hand side it will be seen that the burr formation has extended to the untapped bark.

As previously stated, these burrs are not caused by insects or fungi, and to some extent are a normal feature of *Hevea brasiliensis*. But it undoubtedly appears that their production can be stimulated by tapping. Ordinary tapping injuries usually produce the swellings first described, and we must look for some other reason for the production of these growths of wood in the cortex. I am strongly of opinion that this is to be found in the use of the pricker.

The rotating pricker first patented has ten somewhat rounded teeth, with a sharp edge all round. It cuts down to the wood with every tooth and makes incisions 4.5 mm. long and 8-10 mm. apart. These measurements are obtained with the sample pricker, which was awarded the silver medal at the Rubber Exhibition in 1906. This has now been "improved," and I have two wheels, which apparently represent stages in improvement. The first of these has been in actual use for some months; it has ten teeth as before, but these are truncate, *i.e.*, cut off straight at the ends. The tooth is thickest down the middle, and slopes off to a sharp edge at each side; the blunt end is lozenge-shaped (four-sided), 3 mm. long and 1 mm. thick in the centre. It makes marks 3.3-5 mm. long and 8 mm. apart. In the second wheel the "back bone" of each tooth has been filed down, so that the blunt end is hexagonal with two long sides: it is 3.5 mm. long and about 5 mm. thick. This wheel makes marks 3.5-4 mm. long and 7 mm. apart.

The original pricker was in fairly common use during 1906, and there was a general impression among Planters that it tended to produce burrs. Questions were asked on this point at several Meetings, and the replies given may fairly be described as non-committal, but assuring. In spite of this, however, the use of the pricker was abandoned on several estates. In 1908 we read: "The prickers which were first invented were provided with sharp points; these were apt to penetrate to the cambium and raise small pimples on the renewed bark. In other prickers the sharp points have been destroyed, and the laticiferous canals can only be cut by the sides of each tooth, as the pricker is rotated. The tendency when using the pricker is to run the wheel up and down the stem, in order to get the last drop of latex from the dark,

This repetitional incision in elcision of adjacent areas leads to maceration (*sic*) of the bark, and subsequently to a nasty wound." "Apt to penetrate" and "small pimples" are euphemisms, pardonable under the circumstances; they may be disregarded in welcoming the writer's conversion on one more point to the views urged by his colleagues in 1906.

On an old tree the laticiferous bark is about 5 mm. thick. The outer 2 mm. yield latex sparingly, most of it being in the 2 mm. next to the wood. It is the object of the pricker to set free the latex from this inner 2 mm. without removing it and exposing the wood. It must be obvious that if the sides of the teeth are to cut this layer, the points must penetrate to the cambium; and it must be equally evident to a botanist that if the points touch the cambium, they will go through it. In the old pricker the points cut through and left a clean cut in the wood. In the new pricker each tooth makes two small pricks, one for each corner, with a bruise between. Furthermore, the new pricker requires much more force to drive it, and each tooth penetrates with a distinct jar; indeed, it requires so much force that the teeth break off.

Two years after the introduction of the pricker, we are able to confirm the opinion that it tends to produce burrs on the renewed surface. Surely it is necessary to wait a little longer before declaring that the improved pricker will not have any such effect.

It has been shown that a wound extending to the wood does not, as a rule, produce these nodules in the cortex, but causes a swelling on the main wood. The fact that the nucleus of each free nodule consists of a group of dead bark cells strongly suggests that they are formed round minute fragments of bark which are pushed into the cortex by the teeth of the pricker. In that case the new blunt pricker must be regarded as distinctly worse than the old sharp one, because it has to be forced into the bark and pushes the outer cells before it. If a pricker must be used, the old rotating pricker is to be preferred to the new one. A non-rotating pricker is better than either, because the cooly cannot run it up and down the stem; but this is merely a choice of evils. The question of burrs on the renewed bark deserves serious attention; indeed, it might justly be said that this is more important than any disease at present known in *Hevea* cultivation, because it raises the question whether in many cases it will be possible to tap twice on the same area. In cases such as the tree photographed rubber can be obtained from the renewed bark only in the form of "scrap." The point should be considered most carefully before new systems of tapping based on the use of the pricker are adopted, and it must be remembered that two years at least must elapse before the effect of any system can be seen.

The age of the tree photographed is uncertain. It measures 5 ft. 5 ins. in circumference at three feet, and 4 ft. 2 ins. in circumference above the tapping cuts.

THE NORTHWAY SYSTEM OF TAPPING.

In Ceylon there has been of late a great deal of controversy about a new system of tapping Rubber, but no very definite explanation of the system appears to have found its way into the Press. Presumably what is referred to is described in the following:—

Patent No. 27,328, 1908. Date of application, 16th December, 1908. Accepted, 25th March, 1909. Charles Pickering Hayley, of Galle, in the Island of Ceylon, Merchant, at present residing at Ashley Lodge, Abbey Road, Torquay Devonshire. Communicated by Charles Northway, of Galle, in the Island of Ceylon, Planter.

The patentee states:—

India-rubber or caoutchouc is obtained as an exudation from three orders of trees, *viz.*, apocynaceae, arborescences, and euphorbiaceae, growing in tropical climates, both wild and under cultivation. India-rubber is obtained

by forming a horizontal, vertical or diagonal incision in the bark of the tree from which the rubber or caoutchouc exudes in the form of milk known as "latex," which is collected in a cup or other vessel suspended or fixed under the incision or on the ground. The incisions are made horizontally, vertically or diagonally in the bark round the stem of the tree, a collecting vessel being placed under each or several incisions. This system of collecting requires numerous cups or vessels, which are placed under the various incisions in the bark of the tree, into which the milky juice flows and then coagulates on exposure to the air, or by addition of acids or other chemicals. Under another method, the india-rubber or other trees are tapped by grooving the bark and then puncturing the cells. The object of grooving the bark is to make a channel for the latex to flow along and be collected at the end of the channel in a suitable vessel. This grooving of the bark to form the channel is, or may be, detrimental to the tree.

According to this present invention, instead of grooving the tree to form the channel, I provide an artificial channel in the form of a gutter constructed of metal or other suitable material, and of such construction that it will fit closely round the stem, or part of the stem, of the rubber-producing tree. This channel or gutter may be formed in one piece, or in sections, and is so placed below the incisions of the tapping area of the tree or punctures of the bark of the tree as hereafter described as to act for the latex to flow along into the receptacle or receptacles placed to receive it. This artificial channel or gutter may be in the form of a circular or spiral hoop which is sprung round against or set into the bark of the tree, and its employment does away with the objectionable practice of cutting a groove in the bark of the tree; and also does away with the necessity of fixing a cup receptacle under each incision, as the artificial gutter serves to lead the latex from numerous incisions and punctures round the bark of the tree and discharge it into one main receptacle.

CRITICISM IN CEYLON.

Criticism in Ceylon has been largely directed against the adoption of the pricking system, but Mr. T. Petch, the Ceylon Government Mycologist, has written to the Press as follows:—

1. Your readers should be warned that on no system is it permissible to tap over more than half the circumference of the tree at the same time. This is the maximum, where trees of small girth must be tapped for financial reasons; the optimum is about one-quarter of the circumference.
2. The statement that the latex from the upper incisions of the Northway system flow into the lower incisions, &c., must be accepted with more than the usual quantity of salt; it is impossible.
3. If the wounded bark is thin it might be expected to split away from the wood and die in patches, in the drier rubber districts. This happened under the old system in the Kandy Districts, especially when the tree was tapped with consecutive V's, about a quarter-of-an-inch apart.

CASTILLOA IN MEXICO.

A correspondent connected with an important Rubber Company operating in Mexico remarks that it is extremely difficult to furnish any extended information regarding the cultivation of Castilloa in that country, for the reason that nearly all the plantations have been tapping in an experimental way so far, and while the aggregate makes up quite large shipments of rubber details are lacking as a whole.

On the plantation with which our correspondent is connected, his observations lead him to believe that 5-year old trees, with two tappings in a year, will yield over a specified area about 4 oz. each season, and 6-year old trees a little more.

On the oldest plantation in Mexico there are standing about 5,000 trees from 12 to 15 years of age, from which it is stated that an average of about 2 lbs. a tree was taken annually, but the tapping having been done with the machete, the trees are understood to be rapidly getting into a condition in which they will not be tappable with advantage. On the same estate from a number of trees averaging somewhat under 6 years of age the average yield was 2'52 ozs. from each tapping, most of the trees being tapped once only. As an experiment, some 7-year old trees on this estate were subjected to a severe tapping four months after having yielded 3 ozs. of rubber each, and gave 8 to 11 ozs. of rubber. This Company, by the way, claim that Castilloa trees, 6 to 7 years old, will stand three tapplings a year with an average product of 6 ozs. per tree.

In the Chiapas District, particularly near the towns of Teapa and Tacotalpa, there are a large number of Mexican plantations which have been planted from 10 to 20 years. The trees have been regularly tapped by Mexicans in the Mexican fashion with the machete.

Our correspondent obtained from Dr. Malinado, the owner of one of these plantations, the statement that his crop amounted to an average of 1 lb. each from 14,000 trees, age 12 years.

On the Isthmus of Tehuantepec, owing to the long dry season, trees do not attain the same size in a given period that they do in favoured localities in the State of Chiapas. The difference is nearly, if not quite, 2 years.—*The India Rubber Journal*.

COST OF PRODUCTION.

The following table shows the cost of tapping and preparing rubber, during 1908, on some well-known estates as disclosed by recent Annual Reports:—

	1907.	1908.
ANGLO-MALAY.		
Terentang	27'02 tapping and curing.	20'63 tapping and curing.
Linsum	23'54 "	20'95 "
Ayer Angat	27'83 "	22'62 "
Batang Kali	27'63 "	20'51 "
HIGHLANDS AND LOWLANDS CO.		
Highlands and Lowlands Estate,		
"	" 16'23 tapping	19'18 tapping.
"	" 46'41 f.o.b.	51'00 f.o.b.
Batu Unjor Est.	20'49 tapping	16'10 tapping.
"	" 49'03 f.o.b.	46'00 f.o.b.
SELANGOR RUBBER CO.		30'20 tapping charges 1st semester.
"	"	14'18 tapping charges in December.
PATALING RUBBER ESTATE SYNDICATE.		
Pataling Est.	16'50 tapping	13'50 tapping.
"	—	40'90 f.o.b.
SEREMBAN RUBBER CO.	—	56'90 (in Colombo)
GOLDEN HOPE	—	(under) 12'00 tapping.
SELINSING	—	Rs.1'59 (in Colombo).
GRAND CENTRAL (CEYLON)	—	" 0'84 (tapping & curing).
PERIYAR RUBBER CO.	—	" 1'24 after debiting a fair proportion of standing charges and irrecoverable coast advances to working account.

[1909 Est., 83 cents.].

F.o.b. costs where given above, refer to Port Swettenham.

OFFICIAL PAPERS.

Ceylon Labour Commission in India.

MR. ROWSELL'S REPORT FOR 1908.

At the end of 1907 matters were in anything but a satisfactory condition as regards the number of coolies going across to Ceylon, and when the numbers were published shewing the return to be the lowest but one in twenty-one years, it was generally realized that greater efforts should be made to persuade and send over to Southern India a greater number of kanganies to recruit or obtain labour. This year 47,543 passed through the Agencies, last year 22,159, and in the famine year 1905, 41,461.

The work of the Commission has been slowly but surely gaining ground throughout the recruiting districts, and results are beginning to tell as it is getting generally known that the Agencies and head office are *bona fide* institutions carried on in a practical and business-like manner, assistance being afforded in every way possible for the benefit of kanganies and coolies wishing to proceed to Ceylon. It has been found that kanganies and coolies can put themselves in communication with their Superintendents through the Agencies, and receive prompt replies and assistance. Relatives of coolies, who have gone to Ceylon, can and do obtain information of their whereabouts, which fact is gradually helping to disabuse the minds of so many, that once their friends have crossed the sea they cannot trace them again amongst thousands of natives who go to the one and only place they know of, *i.e.*, Kandy.

The systematic abuse of legitimate means of recruiting which has been carried out by the worst type of recruiters and kanganies in the past has made it very difficult for the Commission to disabuse the minds of villagers, and officials of the Agencies having nothing to do with them, and that it was only started to remedy the existing evils.

The distribution of notices about Ceylon estates, rates of pay, length of service, etc., in the Districts year by year has gradually attracted attention, and I am certain is doing good.

RECRUITING.

Special recruiters were appointed for each Agency, but with the exception of a few the result has not proved a success.

The Malayalam coolies do not seem to like estate work, and are always unsettled, due in a great measure to their not being accompanied by their families; as a rule they are intelligent, quick to learn and anxious to make money; they should do well in the Mills and Towns in Ceylon.

CANARESE ARE THRIFTY AND KEEN.

The Canarese continue to go over to estates, chiefly to those where there is already a connection of them. This year matters are very bad in Mysore, and evidently in some parts a state of famine exists. I cannot urge too strongly on Superintendents of those estates with Canarese kanganies to send them over to recruit at once. This class of agricultural labourer should be encouraged as much as possible, for when they settle down on an estate they work well, are thrifty and keen on earning good wages; contract work is what they like and which suits them best; they are fine, strong coolies and generally very healthy. The Tamil language to them is not difficult, as so many words are similar and they soon acquire it.

TELUGUS NOT ALTOGETHER SATISFACTORY—THE REASON.

A HINT TO THE COLOMBO AGENT.

My attention was drawn at the end of 1907 to the famine-like conditions prevailing in the large Telugu Districts 600 miles North of Madras, and as I had seen Telugu agricultural labourers at work in their Districts, I knew that they would suit Ceylon, provided the difficulty of language was overcome, I sent

up to these Districts and secured and sent over 2,000 Telugu coolies to Ceylon. The reports from some Superintendents, I am sorry to say, are not satisfactory, and there is no doubt that it is in a great measure due to want of Telugu-speaking conductors and kanganyes to supervise the work. On some estates the head kangany and others speak the language, and are able to keep the coolies satisfied and settle down on the estates; food is a factor which requires attention, as Telugus are accustomed to better feeding than Tamils, and require mutton at times which must be given them; those that have settled down are working well and giving satisfaction. Telugu and Tamil kanganyes have already begun to return to recruit in the Telugu Districts, and Superintendents with kanganyes speak this language would do well to give them a trial at procuring this kind of labour. The rates at Madras are Rs.9 for coolies recruiting south of Bezvada and Rs.12 to the north of it. Why don't Superintendents pick up Telugu? I know some who are doing it. Colombo Agents ought to encourage Superintendents speaking Tamil, Canarese and Telugu, as it gives them a far better command over their labour force, and is calculated to obtain better results in the management of an estate.

INDIVIDUAL KANGANY RECRUITING PRAISED.

A fairly large number of Tamils were obtained through recruiters, but the system of individual kanganyes recruiting is the best, and must be encouraged in every way possible. The enormous labour force in Ceylon has a very large and extremely valuable connection in South India which yearly contributes quite 70 per cent. of the labour which goes over to the estates. Kanganyes should be encouraged to keep up their connection with the relations or friends in the villages, and to go to and fro yearly, bringing some of them back with them to the estate as they used to do formerly.

HIGH PRICE OF FOOD STUFFS.

The price of food stuffs continue to rule high. The chief reason for the rise in cholam, ragi, cumbu and maize—all of which are extensively used by the cooly population in this Presidency—is that larger irrigation has converted the *dry lands* where these were cultivated into *wet lands* where paddy is sown, and the area of paddy land is thus increased, so also has the export of rice and wheat to other countries largely increased, and both have contributed to the rise of prices. The general opinion is that these prices will be maintained. There is also no doubt that there has been in the past year or two a much larger area cultivated in such products as cotton, jute and ground-nuts, and these products are being largely encouraged and assisted by the Indian Government.

CANARESE WANT RAGI.

The Canarese eat ragi in their own country, and would like to have it supplied to them on estates, as it is so much cheaper than rice.

THE F. M. S. NEW ARRANGEMENTS.

COOLY LANDED ABSOLUTELY FREE OF DEBT.

The recruiting by the F. M. S. continues to be most successful, and will be more so with the new arrangements which come into force on 1st January to 30th June, *i.e.*, a recruiting allowance of Rs.2 a head will be paid to employers who engaged to make no reduction and to treat the cost of importation as non-recoverable. After the 30th June free coolies would only be allotted on condition that no deductions were made from wages, and that the cost was treated as non-recoverable. From that date recruiting allowances would be paid on all coolies allotted, the rates to include ration expenses in the case of quarantine. It will at once be seen that recruiting rates will be kept as low as possible by the officials, but the notice that coolies are not to be charged with any recruiting expenses at all and to be absolutely free of debt when they start working on an estate will be a powerful lever in the Immigration Agents' hands and a stiff handicap against Ceylon recruiting.

During the four and a half years the agencies have been at work, I have found that a large number of the kanganies sent over to recruit are untrustworthy and useless for the work ; a great many Superintendents candidly write and admit that so-and-so is a scoundrel and requires watching, quite oblivious of the fact he may be going to villages 50 to 100 miles away from the nearest Agency ; some, on the other hand, simply loaf at the Agencies and wait for recruiters to bring in coolies. I would recommend Superintendents trying the plan adopted on some estates of sending over *coolies* whom they can trust, to recruit, say, two or three others, generally relations ; it has proved successful and is worth a trial.

The F. M. S. have recruited a large number of Telugus this year, and from what I hear they are much liked over there, and more have been sent for. I cannot help thinking that it would be a good plan to obtain a report from one of the Planters (Ceylon) who visits the Straits periodically on the working there of the immigration system, employment on estates, wages and requirements for next three years, &c. At present little is known, except that better inducements are held out to labourers by recruiters and maistries, and there is no doubt a great deal of money returns to the villages earned by the coolies on the estates.

RATES.

A great deal has been said during the last months of this year on the subject of " the war of rates " of advances between estates ruling on the Coast and the competition, and it is a subject on which I think an explanation from me is necessary. There is an idea prevalent in Ceylon that I am responsible for the rates paid for kanganies and recruiters to coolies, and I would point out that I have nothing whatever to do with the rates allowed here. My position in India is practically that of Banking and Immigrant Agent for Ceylon estates. The Superintendents of these estates send me their order embodied on the A. Forms as to the amount to be paid per head, and these orders are carried out by me.

An A. Form corresponds to a Bank's cheque.

HIGH ADVANCES.

It is undoubtedly the case that there are estates who must have labour to get their work in hand, and who, therefore, are prepared to pay a high rate, Rs.25 to Rs.30 per head, and I have received orders for that amount. Of those who have sent orders of Rs.15 or more per head, I find that the percentage is 11.5 per cent. of the total A Forms received. I consider a maximum rate of Rs.10 per head (excluding feeding and rail expenses) a fair one and kanganies who have a decent connection, and who intend to recruit, should have no difficulty in securing this labour at these rate.

I am making a strenuous effort to introduce a universal advance rate of Rs.10 a head, and I find that an appeal to the Superintendents, who have sanctioned large advances, has, in many instances, had the desired results, and I have been allowed to reduce the rate.

I hope that during the present year Superintendents will co-operate with me, as far as possible, in assisting me to establish this uniform rate, and I would strongly urge them to carefully consider the new arrangements of the F. M. S. to which I refer in another paragraph. I have also started latterly enquiring of each cooly as to the state of his indebtedness, and having entered on the cooly pro-notes which are taken in favour of the kangany the total amount the cooly acknowledges he has received from the kangany or recruiter either in the shape of cash or village debts paid for him plus his batta and rail fare.

The new form of cooly pro-note, showing as it does the actual amount of debt acknowledged in India by the cooly, should be of the utmost assistance to Superintendents in making out their accounts.

AGENCIES.

All the Agencies have been visited this year with the exception of Ammapatnam and Tondi by myself, Assistant Commissioner and Travelling Inspector. Some difficulty has been found in obtaining good sites for officers and rents are high in some instances, but nearly all are well situated and suitable for the work.

I have found it advisable to reduce the number of Agencies, as the results of the working did not justify keeping them open; the number is now 22. I propose sending Travelling Agents out to the important centres in each District, where they will secure and appoint local men to act as correspondents, and keep me informed when labour is available, assist in tracing absconders, and helping the peons in their work when sent out from any of the Agencies.

ACCOUNTS AND CORRESPONDENCE.

This branch of the business has greatly increased and the work has been very heavy throughout the year. Extra clerks have had to be engaged, and we have had to move into a larger office. The staff consists of the Assistant Commissioner, a head clerk, 17 clerks and 12 peons. The statistics will give subscribers some idea of the large amount of work done, and it must be remembered that there is no Bank in Trichy or at any of the Agencies except Madras; this has always been a heavy handicap and entailed great responsibility where large sums are dealt with daily. All transactions connected with the cashing of orders and cheques for kanganies from the Straits at Negapatnam are charged commission, and I estimate Ceylon estates have been saved many thousands of rupees by the banking system I adopted since the opening of the Commission.

ABSCONDERS.

The work connected with tracing and persuading absconding coolies to return to their estates or repay their debts has greatly increased. This part of the Agency business has been very heavy; it takes up a lot of time and requires great care, perseverance, forbearance, and tact. In some instances it takes months before the coolies are discovered.

The Agents never act in any way until they have approached the village official, when an enquiry is held, and if an amicable settlement is arrived at well and good, but should the absconder decline to settle the debt or return to the estate, the only recourse then is for the Superintendent to take out a warrant in Ceylon for his arrest. None are obtainable in Southern India.

The process of suing an absconder for his debt in the Southern Indian Courts is a costly and lengthy proceeding, and only advisable when the amount in question is a large one.

The return of absconding coolies and their indebtedness, &c., speaks for itself and is worth perusal. I know I am correct in saying the great success of this work is well-known both in Ceylon and Southern India, and is acting as a large deterrent to absconding kanganies and coolies on estates. Superintendents, when writing about absconders, should always give full details and send any pro-notes supporting the liability, without which it is almost useless any action being taken by the Agencies.

It may interest Superintendents to learn that five kanganies who absconded from their estates a year to three years ago were traced and persuaded to return; their debts were Rs.2,850, Rs.2,300, Rs.1,505, Rs.1,125, and Rs.725, respectively. It is a wonder to me that I don't get more cases sent over.

Some statements appeared during the year which led one to believe that crimping to a large extent was going on by Ceylon kanganies and recruiters of "advanced labour" due to go to the Tea and Coffee Districts in Southern India, and an instance was quoted by the Wynaad Planters' Association. On enquiry it was found non-proven, and though no doubt coolies are trying to obtain advances from both sides, I am sure it seldom occurs with Ceylon kanganies. I have written and pointed out to the Wynaad

Planters' Association that Superintendents losing any labour could apply to my Agencies, whose registers would show if any had passed through their hands; of course, outside coolies I couldn't check.

The facilities with which absconders are able to reach Colombo are numerous and difficult to check, but the system of obtaining steamer tickets greatly assists and encourage them to clear away.

The Booking Office ought to be at the jetty where coolies embark; this would give the Police and Superintendents an opportunity of obtaining warrants in time to identify and arrest absconders, or some chance of watching for them when getting their tickets and embarking; this would, when once known on the estates, give cause for some reflection.

ESTIMATE.

The estimate last year was Rs.58,000, the expenditure Rs.57,800, and additional sum Rs.1,250 which should have been included in 1907 account had to be added to 1908, and brought the total up to Rs.59,052.

A preliminary half-yearly estimate was submitted at the request of the Planters' Association Committee in December, previous to the announcement that the Government of Ceylon would again contribute the same proportion towards the working of the Commission. I am now sending in a revised estimate of expenditure, which I strongly advise being sanctioned; this includes the purchase of a motor-car.

I have pointed out previously the necessity for, and great usefulness of, a motor-car; they are being used all through these Districts by various officials, and it would be a fatal mistake to allow another year to pass without the Commission having one.

Only two days ago a well-known official who travelled in his motor from Madras to Trichy ran out 60 miles, completed his business and returned same day.

The staff at the head office have carried out their duties very well during my illness; the Assistant Commissioner and the Head Clerk have been unremitting in their attention to the extra heavy work which was experienced this year.

The brunt of the Agency work fell as usual on the Trichy Dépôt, and the Agent and staff deserve great credit for the way in which it was carried out. The rest of the Agency worked, with some exceptions, well and show satisfactory results. The Madras Agent put in some good personal pioneer recruiting, which, I hope, may turn out eventually greatly for the benefit of Ceylon.

NORMAN ROWSELL,

Ceylon Labour Commissioner.

6th February, 1909.

COOLY STATISTICS.

The Commission Cooly returns for 1908	...	...	...	...	47,543
Government returns for the same period	...	...	...	...	88,996

MEMO.

ESTATES.

Estates on the Scheme	...	...	...	...	...	1,090
Estates using the Scheme	...	...	...	...	...	986

LETTERS.

Inland.

Total No. of letters received over	15,980
Total No. of letters replied... ..	17,140

Ceylon.

Total No. of letters received excluding A. Forms about	5,650
Total No. of letters replied about	17,500

TELEGRAMS.

Inland.

Wires received	1,480
Wires despatched	1,457

Ceylon.

Wires received	740
Wires despatched	990

IMMIGRATION.

Total No. of receipts to the credit of Immigration Account	
	in 1905, Rs.460,433- 0-0
" " " " " "	in 1906 " 325,749-12-6
" " " " " "	in 1907 " 325,917- 8-1
" " " " " "	in 1908 " 614,099- 5-0

COOLY STATISTICS.

Coolies despatched from all Agencies to end of December, 1905...	41,461
" " " " " " " 1906...	28,201
" " " " " " " 1907...	22,159
" " " " " " " 1908...	47,543

BOLTING CASES IN 1908.

Total No. of cases referred to	640
145 bolters were found out and persuaded to return to the estates whose debts amounted to	Rs.22,368-15
268 bolters paid their debts amounting to	" 9,089 25
102 bolters have given fresh bonds amounting to	" 6,359 00
	Rs. 37,816-40

Total No. of cases pending, half finished and awaiting final report	98
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A FORM—KANGANIES.

Total No. arrived at all Agencies for assistance	10,440
Total No. left for estates	9,489

AGENCIES.

There were 32 Agencies of which 11 Agencies have been closed—present strength	21
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LIST OF AGENCIES CLOSED DURING THE YEAR.

1. Ranipet	6. Kovilpatti
2. Kollegal	7. Coimbatore
3. Satiyamangalam	8. Palghat
4. Atur	9. Mayaveram
5. Perambalore	10. Negapatam
11. Cuddapah.	

Extracts from some Ceylon Reports.

Extracts from the Report of the Director, Royal Botanic Gardens, for 1908.

Scientific Division.—The work done by the various officers is described in their reports. The chief new departure is the plant-breeding work undertaken by Mr. Lock, the Assistant Director. This will be likely to prove the most important work of an Agricultural Department in the future. Mr. Petch has continued his revisions of the Ceylon fungi, a work which will occupy many years. Mr. Green has been on leave most of the year, and the Chemist has also been much away, among other things taking charge of the Ceylon Court at the London Rubber Exhibition.

Division of Experiment Stations.—At Peradeniya, the place has been wonderfully improved during the year. The plots have been properly pruned, cleaned up, divided by paths, and got into good order. Several new experiments have been or are being laid out. At Maha-iluppalama a marvellous change has come over the appearance of the place. The stumps having mostly decayed, machinery was put up on the land, and at a cost of less than a quarter of that of hand labour, the ground is kept not only weeded, but tilled to a depth of some inches so that it does not become dry (at a slight depth) even in August, and almost anything will grow on it. The growth of Ceará rubber is phenomenal, and coconuts are doing much better than at Peradeniya, while cotton is succeeding to a far greater extent than since the first year, when it was of the nature of a chena crop. Mr. McCall, the Director of Agriculture in Nyassaland, who has had several years of experience in Egypt, and has been here for purposes of study, thinks, however, that we should grow cotton solely with irrigation water, and a large experiment to test this will be tried in 1909, together with a large experiment in tobacco, for which money has been voted by the Agricultural Society.

2.—CEYLON AGRICULTURE: ECONOMIC PRODUCTS.

The year has in general been prosperous for agriculture. Extension of rubber has fortunately ceased, and there are now signs that attention will next be devoted to cotton—a very desirable direction, for it is a crop which will suit the smaller capitalist, which is yearly becoming scarcer, and for which there is an unlimited demand, so that nothing Ceylon can do will affect the market, and for which there are thousands of acres of land suitable, at present lying idle.

The most noteworthy agricultural features of the year have been—

- (a) The steadily growing recognition on the part of the public that the real bar to agricultural progress among the poorer natives, who form the great part of the cultivating community of Ceylon, is lack of capital, and that it is almost idle to establish agricultural societies and other "agricultural" organizations till this difficulty has been overcome.
- (b) The success of the application of good machinery to the land of the North-Central Province, and the success upon such cultivated land of crops hitherto said to be impossible of growth in the north. The machinery has not only reduced the cost of weeding to about one-tenth of what it was, but weeds absolutely clean, and keeps the land tilled. There may now be seen at Maha-iluppalama large areas of land as well tilled and as weedless as a European farm, while the growth of the Ceará rubber, the coconuts, the cotton, the cacao, &c., is wonderful.
- (c) The great spread of the coconut stem bleeding disease in the early part of the year, and the first serious application of the new Pests Ordinance (other than the special case of the Batticaloa cyclone) to the villagers' crops. On the whole, this Ordinance has worked very well indeed, and the effect upon the villagers of the demonstration that they will not in future be allowed to let their "cultivations" become a hot-bed of disease to the injury of others should be a very valuable one.

- (d) The serious commencement of cotton growing in Ceylon, though as yet it is mainly grown in the wrong part of the Island—the wet zone—as a catch crop among rubber or other things.

Exports of rubber have again almost doubled. The prices of tea and coconuts have both been high, and for all these industries the year has been very prosperous. Camphor has continued to extend, but unfortunately the artificial camphor is being more and more cheaply produced, and the industry in consequence is becoming somewhat risky. We have always, however, advised people strongly never to make it an important part of their cultivations.

EXTRACTS FROM THE REPORT OF THE ACTING GOVERNMENT ENTOMOLOGIST.

The different insect pests of the tea plant that have come to my notice are:—

(1) *Shot-hole Borer* (*Xyleborus fornicatus*).—This pest seems to have spread considerably during the last two years, doing severe damage to every estate that it has attacked, especially to those on which the tea—from other causes—was less vigorous.

(2) *Termites* (*Calotermes militaris*).—This pest is responsible for considerable damage to tea. Starting at the roots and working upwards until the stem has been completely hollowed out, the insect so weakens the framework of the bushes that any accidental blow will result in the collapse of the main stem. This pest is mostly felt in the Kelani Valley District.

(3) *Nettle Grub* (*Thoesia recta*).—This pest has done considerable harm in the Uva District, where it appears to have occurred (periodically) for many years. It often necessitates a premature and costly pruning of the affected fields. I think that if all those estates attacked by this pest would co-operate towards its extermination, the work would eventually be cheaper and more satisfactory. Individual and isolated efforts only result in driving the pest to neighbouring estates. The ground between the bushes should be swept and all the fallen leaves burnt in order to destroy the pupæ, which are like small tea seeds in shape and colour.

(4) *Red Slug* (*Heterusia cingala*).—Reports of damage by this pest have been received from the Gampola and Uva Districts, though—judging from previous records—the attacks have been somewhat less severe during the period under consideration.

(5) *Yellow Mite* (*Tarsonymus translucens*) has been reported from the Kelani Valley. *Scarlet Mite* (*Brevipalpus obvatus*) has also given some trouble.

(6) The *Green Bug* (*Lecanium viride*) and the *Brown Bug* (*Lecanium coffee*) have been reported from estates in the Haputale District. The former being the pest that proved so fatal to coffee in earlier days should receive careful attention. A certain white fungus was found to be attacking and killing the insects. This fungus—I am informed by the Mycologist—is difficult of propagation and does not lend itself for use as an insecticide. Being such a destructive pest, I think that directly it is noticed the affected bushes should be pruned, and the prunings burnt or buried with lime. Young trees just flushing can be treated with lime if the pest has not obtained too strong a grip on them.

Rubber.—I have received several letters from Planters complaining of pests attacking rubber trees, but only ants and termites were found to have been responsible for the damage. The other insects received were mostly dead-wood boring beetles, which had entered the stems after the plant had been killed by a root disease. Cockchafer grubs have killed off a few young plants by attacking the roots.

Cacao.—*Helopeltis* has been reported from several Districts, but all the cases that I have examined have been accompanied by canker, and the spraying for canker has generally killed off the *Helopeltis* as well.

It has been decided to try my scheme of importing another beetle to combat *Xyleborus fornicatus*. Shot-hole borer has so increased that something

must be done to exterminate it. As the treatment must be practically costless, the only way open was to find some natural enemy. As far as I can gather out *Xyleborus* is not indigenous to this country, and is therefore less likely to have enemies here. In fact the rate of growth proves this. In America, where they have species of the same family, with similar habits, such vast sums of money were lost through their ravages that they decided to import a natural enemy (*Clerus ferrugineus*). I placed my suggestion before the Planters' Association. The first question that arose was—whether the introduced insect might prove to be a worse enemy than the shot-hole borer itself. This question was referred to the Government Entomologist, Mr. E. E. Green (then on leave in Europe), who corroborated me in saying that the *Clerus* was purely insectivorous. Mr. Green was then asked to bring out a consignment of these beetles, and he agreed to do his best to obtain them. The result of these beetles ought to be noticed very soon after they have been let loose on the shot-hole borer.

5. *White Ants (Termites)*.—It has been estimated that two-thirds of the Island is undermined by these insects. Termites do untold damage to tea plants, and it was on account of this damage that it was decided to import the Universal Ant Exterminator, which has been successfully employed in South Africa. Termites are causing severe loss to the Rubber Planters in the Federated Malay States, and although it is said that we have not that species (*gastroi*) here, yet that is no criterion that our tea-devouring *Caloterme militaris* should not develop a taste for Ceylon rubber and give us as much trouble as *Termes gastroi* does in the Straits. These machines do their work perfectly, they entirely clear out the nests,—not driving the ants away, but absolutely killing them. The fact that they could only be purchased in Natal was most inconvenient, and led to great delay; but a Colombo firm (Messrs. Fraser & Co.) has now taken up the agency. There is now every facility for ridding the Island of this pest, and it is hoped that the machines will be generally employed.

Extracts from the Report of the Government Mycologist.

New diseases sent in during the year include a disease of coconut kernels, root disease of coconuts, a "witches broom" on cinnamon, stem and root diseases of camphor, branch canker of tea caused by *Physalospora*, a stem disease of tea, two root diseases of *Acacia decurrens*, a canker of Hevea, root diseases of *Grevillea*, dadap, and *Albizzia*, leaf disease of Ceará, root disease of nutmeg, smut disease of citronella, root disease (?) of *Amherstia*, root disease of purrelo, diseases of grapes, diseases of plantains, leaf and pod disease of vanilla. Special mention must be made of a root disease of tea caused by a species of *Diplodia*. This has occurred on several estates in the low-country, the bushes dying usually after pruning. As it is spread by spores, all dead bushes should be immediately burnt, together with the prunings; the fungus lives as a saprophyte on prunings either buried or left on the surface.

Investigation was also invited into the longstanding paddy diseases, and the cause of red stains in rubber biscuits, while the reference from the Police Court of the question of adulteration of yeast raised the hitherto unattacked problem of the identity of the organisms causing fermentation in Ceylon.

EXTRACTS FROM THE REPORT OF THE GOVERNMENT CHEMIST.

During my absence from Ceylon on leave Mr. Bruce acted as Government Chemist, and had charge of the fumigatorium, while Mr. Green was in England.

I left Ceylon on December 26th, 1907, on six months' leave, but when in England was requested, with permission of the Ceylon Government, to assist in promoting the International Rubber and Allied Trades Exhibition, and to lecture on Para rubber in the East generally. I left England on May 15th, and arrived in Colombo on the 30th, and resumed duties until June 30th when I proceeded to the rubber Districts of the Federated Malay States, Java, and Sarawak, returning to London *via* Ceylon on September 5th.

On the 23rd [September] I returned to Ceylon *via* Bombay, and visited the Agriculture of the Madras Presidency and the Koilpatti Experiment Station

to inspect the cotton, dry grains, pulses, &c., and obtained samples of the varieties most appreciated as food by the Tamils for growth in Ceylon. I arrived in Colombo on the 10th and proceeded to Gangarooka, my headquarters, during Dr. Willis's absence on leave.

Most of the up-country tea experiment plots have since been visited, and the results of the experiments to date are being condensed for issue as a Circular.

Tapping experiments in connection with Mr. Lock at Henaratgoda have also been attended to, the rubber obtained being sent to London for manufacture and testing. I visited Maha-iluppalama with Mr. McCall re the cotton experiments to be established.

Experiments with Parà rubber on the effect of clean weeding and the growth of certain leguminous plants to cover the soil and prevent wash are being conducted at Gangarooka, the results of which on the growth of the trees and the future yield of latex will be recorded.

During 1903 several analyses of the following products, &c., were conducted:—Papaw extracts, arrowroot, sugarcane, vinegar, oil-seed from fruits, cocoanut oils, green teas, waters, soils for various products, saline soils, cacao leaves, castilloa leaves, cocoanut disease remedies, and certain green manures or weed-killing plants, including *Pissiflora felida* and *Mikania scandens*. Experiments in the manufacture of calcium citrate were also conducted to ascertain if an industry in this product could be established. Samples were submitted to Mr. C. Bohringer of Colombo, who reported there is no demand.

The experiments with regard to the manufacture of a purified extract of papaw were carried out on juices obtained from fruits grown at Gangarooka. The process was briefly to extract the juice from the unripe fruits by making several incisions with a sharp knife, scraping off the exuded juice, and collecting in vessels. This juice, which was liable to undergo decomposition very rapidly, was then strained through fine sieves and precipitated by the addition of three volumes of alcohol. The crude papaine was then filtered off, dried at a low temperature, and powdered, the product being a light yellow powder almost entirely soluble in boiling water, and containing from 11 to 12 per cent. of nitrogen, equal to 70 to 75 per cent. of proteid matter.

This product was much more active than the plain evaporated juice. Samples were submitted for valuation to Messrs. C. Bohringer & Co., who reported there was little demand either for the crude or refined product, so that the extraction on the improved lines was not likely to be a commercial success. A Circular on the papaine experiments is being issued.

The analyses of the young and old cacao leaves, to ascertain the storage and transference of inorganic constituents during and after the periods of rapid growth, are interesting as showing the increase of potash and phosphoric acid in the more actively growing parts, and their transference to other parts of the trees when the leaves are ready to fall.

A marked feature is the large proportion of silicates in the older leaves, amounting to from 43 to 54 per cent. of the ash, and apparently chiefly combined with lime and magnesia. While the potash and phosphoric acid in the young red leaves and twigs amount to about 35 per cent. and 10 per cent. respectively; in the older leaves they only amount to 5 per cent. and 2.5 per cent., and fallen leaves have still less. The ratio of lime, magnesia, potash, and phosphoric acid in the ash of the young leaves is as 6, 4, 2, 1, showing the necessity of ample easily available lime and magnesia in the soil, as well as potash, if the growth of cacao is to be luxuriant. The use of dolomite (burned) which occurs in several places in the chief cocoa Districts of Ceylon is indicated instead of pure burned lime.

The manurial value of fallen leaves is low, but where buried they help to provide some humus and so improve the physical properties of the soil.

Gangarooka Tea Experiments.—The results of the green manuring experiments on Gangarooka are very instructive, and show the great advantage of this form of manuring for tea. Other poor tea is being taken in hand to see how far it can be brought into a high state of efficiency by nitrogenous green manuring with the aid of lime, phosphates, and potash only.

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The Scientific Officer.

In Proceedings of the Government of Madras, No. 1655, dated 22nd June, 1909, relating to the appointment of the Scientific Officer for the purpose of assisting the Planting industries of Southern India, it is remarked, after a reference to certain papers that had been read :—

"The above correspondence relates to the appointment of a Scientific Officer for the purpose of assisting the Planting industries in Southern India. In order to provide such an officer, the Secretary of State has sanctioned the addition of an extra post to the cadre of the Indian Agricultural Service for five years on the understanding that the officer selected to fill the post will be deputed to work as a Government officer under the immediate control of the United Planters' Association of Southern India. Mr. R. D. Anstead, who has been selected for the post, reported himself to the Commissioner of Agriculture for duty on the forenoon of the 12th May, 1909.

2. "The Board of Revenue has been requested in Official Memorandum, No. 1065A/08-7, dated 29th April, 1909, to arrange for Mr. Anstead's work in consultation with the United Planters' Association of Southern India. Mr. Anstead's exact relationship to the United Planters' Association of Southern India should be clearly defined at the outset. The Board is requested to report where Mr. Anstead's Headquarters should be fixed and the establishment, if any, which should be given to him.

3. "In order that the services of the Special Officer may be utilised by the Planting communities throughout Southern India, the Durbars of Travancore, Cochin and Mysore have agreed to contribute towards the cost of the officer for a period of five years in the following proportions :—

Travancore Durbar	...	...	Rs. 2,000/-	per annum.
Cochin Durbar	...	...	500/-	"
Mysore Durbar	...	...	1,000/-	"

"The United Planters' Association of Southern India has also agreed to contribute Rs. 3,000/- per annum for five years, and the Administration of Coorg has been asked to contribute a sum of Rs.1,000/- per annum. The expenditure on account of the officer will be met by Government in the first instance, and the Accountant-General will arrange for the recovery of the contributions mentioned above in sufficient time to admit of their being taken in abatement of the charges each year.

4. "The agreement executed by Mr. Anstead with the Right Hon'ble the Secretary of State for India is herewith forwarded to the Board of Revenue for transmission to Mr. Anstead. The Board of Revenue is requested to submit a re-appropriation statement to meet the cost of the appointment during the current year.

5. "The following letters will be sent to the Residents in Travancore, Cochin and Mysore, to the Hon'ble the Chief Commissioner of Coorg and to the Secretary to the United Planters' Association of Southern India,"

Special Notice.

Every planter who is a member of one of the District Association's affiliated to the U. P. A. S. I. is invited to send to the Secretary, for transmission to the Scientific Officer, specimens of any pest of which he is cognisant, together with such notes as he may be able to give concerning its depredations and its life history; also, particulars of any plant disease that affects his products to an appreciable extent.

It is desired that the Scientific Officer be posted up as soon as possible with information regarding all pests and diseases known in the various planting districts of Southern India and the season of the year at which each pest or disease may be most profitably studied in the respective localities.

Renard Road Trains.

As many Planters are interested in the working of the Renard Road Train, the following is extracted from the Ceylon Government report on trials made in India, which report has been kindly sent to the U. P. A. S. I. by Messrs. Best & Co., the Madras Agents for the train:—

Extracts from report of Messrs. C. A. Lovegrove, A. M. I. C. E., and A. W. Denniss to the Hon'ble the Colonial Secretary, Ceylon.

Calcutta, November 5, 1908.

1. In due course the drivers arrived from England, the fitting up of the train was completed, and the train left the erecting shed eventually on October 16; but, owing to difficulties with the Local authorities, it was not till October 22 that trial runs were commenced, from which records giving useful data could be obtained.

2. We will now proceed to describe the Renard train exhibited at Calcutta, the conditions under which the trials which we attended were conducted, and to furnish a report of the results obtained.

3. The roads over which the trials referred to took place were level and without any appreciable gradients, so that, though useful information regarding the capabilities of the Renard train over such roads has been obtained, we have had no evidence of, and can therefore offer no opinion in respect to, its suitability for transport purposes on steep and tortuous roads such as those on the hills in Ceylon. From what we have seen, however, during the trials at Calcutta, we think that the Renard train would give better results than any form of traction engine with trailers. But should it be considered desirable to proceed further in the matter, the dimensions of the vehicles and the axle weights as given in Tables A and B appended hereto should not be overlooked.

Description of the Renard Train exhibited at Calcutta.

4. *General.*—This Train, built by the Daimler Motor Co. at Coventry, consists of a petrol locomotor, one passenger carriage, and three open trucks. The Superintending Engineer informed us that in its construction many improvements had been embodied, which experience with trains previously constructed had shown to be desirable or necessary. On reference to Tables A and B appended it will be observed that some of the principal dimensions and weights materially exceed those shown in accounts previously received of the Renard rolling stock.

5. The units of the train and the machinery by which they are driven and steered appeared to be substantially constructed and well proportioned to withstand the strains and shock they may be subjected to.

6. The locomotor and followers are severally connected by means of steel steering rods attached to the swivel rods of the end axles of each vehicle and by a revolving Cardan shaft.

7.
We had no means of verifying the weights of the locomotor and vehicles; these were given to us by the Superintending Engineer in charge of the train, who also informed us that the chassis of the passenger carriage and of the

goods trucks were of precisely similar construction, excepting that there were more leaves in the springs of the chassis of the latter.

8. *Locomotor*.—The locomotor is fitted with an 80/100-h. p. petrol engine with four cylinders, which can be adjusted to eight different speeds. The engine drives a Cardan shaft running through the whole length of the train at the rate, it is stated, of 800 revolutions per minute.

9. The locomotor is carried on two axles. The front or steering wheels, which are on the axle under the engine, are fitted with rubber tyres, the rear or driving wheels are fitted with tyres of steel.

10. *Passenger, Carriage, and Goods Trucks*.—The passenger carriage is fitted with seats lengthwise on each side, and is capable of carrying twenty-five passengers.

11. The goods trucks are built to carry five tons apiece.

12. Each of the above vehicles is mounted on three axles, the centre axle being the driving axle and the wheels on the two end axles being utilized for steering. All the wheels have steel tyres.

13. *Propulsion*.—The Cardan shaft running through the train transmits power, by means of differential cross shafts and chain connections, to the driving wheels of each vehicle, so that there are, in addition to the driving wheels of the locomotor, as many pairs of driving wheels as there are vehicles composing the train.

14. The connection of the Cardan shaft between two vehicles is made by the insertion of a coupling sliding shaft capable of adjusting its length to the requirements of any curve that the train may be running on. The connection of the ends of this coupling piece with the shaft on each vehicle is made by universal joints, which admit of the train running on curves or over unequal ground without the working of the shaft being affected.

15. *Driving, Steering, and Brake Power*.—The driving of the motor is quite simple; any one who has learnt to drive a motor car would soon be capable of driving a Renard locomotor.

16. One of the most important features of the Renard train is the system of steering adopted. Steel cables diagonally attached actuate the swivel rods of the end wheels of each follower, and direct those wheels to the radius of whatever curve the locomotor is driven upon; as each axle arrives at the tangent of the curve taken by the locomotor, the wheels are automatically set to the required radius and accurately follow in the track taken by the locomotor. The accuracy and safety with which the train threaded its way when driven through congested traffic and round sharp corners in the streets of Calcutta were in every way most satisfactory.

17. When the train is proceeding forward the steering is directed entirely by the driver, who steers as though he were driving the motor only, knowing that the vehicles behind will accurately follow the course set by the motor. When it becomes necessary to back the train its direction is controlled by an assistant who steers the end wheels at the rear of the train by means of a rod temporarily attached, the duty of the driver being then confined to reversing the engine of the motor and steering to follow the last truck.

18. At our request a trial was made of the turning capabilities of the train. To effect this a circle was described, the diameter of which, measured inside the track of the inner wheels, was 52 feet 6 inches. The Superintending Engineer informed us that this train had in England described a circle of only 30 feet in diameter, but that on its transit to India a lever was bent which rendered it impossible to turn the wheels to the full extent at the time of our visit. Subsequently another trial was made, when by the assistance of a man pulling the steering wheels of the locomotor as it proceeded on its course beyond the angle at which the steering lever would operate, a curve of 34 feet 5 inches in diameter was accomplished.

19. The train is fitted apparently with ample brake power. There are two brakes operating on a drum on the Cardan shaft on the motor, one of which is in reserve in case of damage to the other; there is also a slipper

brake, which operates on the driving wheels of the locomotor. In addition to the above, there is a hand brake on each of the vehicles, which operates on a drum on the Cardan shaft. A brake test was made on October 22, when the train was running at a speed of 12 miles per hour; the train was brought to a stop within a length of 12 feet without inconvenient shock.

20. *Staff.*—For each train when running, a driver and assistant are necessary; and owing to the complicated nature of the machinery in the locomotor and vehicles, we consider that in order to keep the train in running order it will be desirable, if not absolutely necessary, to place it under the close supervision of an experienced mechanic trained in Europe.

21. *Account of Trials made and Results obtained.*—The trials of the Renard train which we attended were conducted over the road from Paikpara, which is situated on the outskirts of Calcutta, to Barrackpur and beyond.

22. The section of road between Paikpara and Barrackpur, a distance of about 10½ miles, is a "grand trunk" metalled road; it is of unusual width, practically straight, dead level, and the conditions of its surface excellent, the absence of ruts or depressions throughout being very noticeable. This section of road is apparently maintained chiefly for Military purposes, as there is very little traffic upon it.

23. Beyond Barrackpur the roads on which the trials took place were not materially dissimilar to roads in the low country in Ceylon, excepting that they were quite level, and generally they were somewhat broader. Their surfaces were metalled and in good order.

24. As the section of road between Paikpara and Barrackpur, as described in paragraph 22 above, is of a far higher standard than any road in Ceylon, we are of opinion that the figures given in Table C appended hereto as representing the "average speed on roads beyond Barrackpur" are a more accurate guide as to what may be expected of the Renard train on good level roads in Ceylon than the average speed for the whole of each trial.

25. On October 22 a trial was conducted from Paikpara through Barrackpur to the Pulta waterworks, and return over the same road to Paikpara, the total distance being 26 miles, of which 21 miles were over an exceptionally good road (see paragraph 26 above).

26. On October 23 a trial was made over the same road as on the 22nd idem, but for a longer distance beyond Barrackpur, the total distance being 31½ miles.

27. On October 27 a trial took place over the same road as those mentioned above, but for a still more extended journey beyond Barrackpur, the total distance being 51 miles. The outward journey of 25½ miles was done without a stop, and the only stop on the return journey was made at a railway crossing where the gates were closed.

28. As regards speed during the trial on October. . . . the result of this trial cannot be taken as a fair indication of what the train is capable of; the driver was obviously inexperienced in the management of the locomotor, and much time was lost in ascertaining the direction of the route it was desired to traverse.

29. During the trials on October 23 and 27 the Speedometer in the motor indicated for short periods on the best sections of the road speeds rising to 15 miles per hour, but for no considerable length of time above 12 miles per hour.

30. During the whole of the three trials the motor and train ran steadily and without giving trouble, except that on the trial of October 27 the engine misfired frequently while running over the last 8 miles owing to dirt in the carburettor. This materially reduced the speed of the train over that distance, which lay entirely in the section of road between Paikpara and Barrackpur, and will not therefore affect the average speed on the roads beyond Barrackpur as given in Table C.

We have, &c.,

C. A. LOVEGROVE *Assistant Director of Public Works.*
A. W. DENNISS, *District Locomotive Superintendent.*

Table A.
Showing General Dimensions of Rolling Stock.

— — —	Loco- motor.	Pas- senger Car.	Truck.	
	Ft. ins.	Ft. ins.	Ft. ins.	Ft. ins.
Length of body overall	15 0	17 2½	16 9	
Width of body	5 10	6 0	6 6	
Width of body over roof	—	6 7	—	
Height of top of body from ground	9 5½	9 4½	5 10½	
Length of chassis overall	15 0	15 8	15 8	
Length of chassis bed	—	14 2½	14 2½	
Width of chassis bed	—	2 10½	2 10½	
Height of top of chassis from ground	3 0	3 6	3 6	
Number of axles	2	3	3	
Length of axles over caps	6 3½	6 3½	6 3½	
Length of wheel base (the three axles of the passenger car and trucks being spaced 4 ft. 11½ inches apart)	10 11½	9 10½	9 10½	
Wheel track, centre to centre of wheels	5 0	5 0	5 0	
Width of tyres of driving wheels	0 8	0 8	0 8	
Width of tyres of steering wheels	0 2½*	0 5†	0 5†	
Diameter of wheels, except steering wheels of locomotor	3 3½	3 3½	3 3½	
Diameter of steering wheels (rubber) attached to steel tyre 6 inches wide	3 4½	—	—	
Underneath clearance above ground	1 3	1 2	1 2	

* Rubber.

† Steel.

EXTRACT FROM REPORT OF MR. C. A. LOVEGROVE, A.M.I.C.E., TO
THE DIRECTOR OF PUBLIC WORKS.

CEYLON, *March 29th 1908.*

SIR,—In compliance with your instructions to attend the trials of the Renard train in Assam, I have the honour to inform you that I proceeded to Gauhati, from whence the trials were to take place, and arrived there on January 30 last. The trials were commenced on February 1, and were concluded on February 27; the results of these and the information obtained therefrom are furnished in the following report:—

2. The trials of the Renard road train under review were conducted, by arrangement with the Railway Board of India, over the Government cart road in Assam from Gauhati, which lies on the south bank of the Brahmaputra, and is the headquarters of the District of Kamrup, to Shillong, the sanatorium and summer headquarters of the Government of Eastern Bengal and Assam, situated in the Khasi hills.

3. The train used in the trials was the one used in the trials in Calcutta, and was described in the report forwarded from Calcutta by Mr. A. W. Denniss and myself to the Hon'ble the Colonial Secretary on November 5, 1908, a copy of which was sent to you on the same date. . . .

General Description of the Gauhati-Shillong Road.

4. The road starts at Gauhati at an elevation of 208 feet above mean sea-level and reaches an altitude of 4,928 feet at Shillong, the nett rise being 4,720 feet; owing, however, to undulations in the road across the intercepting hills, the total rise amounts to 6,358 feet, the difference between this amount and the nett rise being represented by falling gradients amounting in the aggregate to 1,638 feet. The distance dividing these two places is 64 miles. . . .

5. The road is very similar in its characteristics to the hill roads in Ceylon, with the exception that it is, as a rule, somewhat broader, the formation width clear of the side drain being generally 14 to 16 feet. It is metalled throughout, and its condition during the trials was good, excepting the first few miles out of Gauhati, which were somewhat worn and uneven. Throughout the trials the road surface was dry and very dusty.

6. For the first $7\frac{1}{2}$ miles of the road the gradients are flat, but from thence onwards the road rises to a summit near the 9th milepost on stiffish gradients, the steepest being 1 in 14.9 for a distance of 100 feet near $7\frac{1}{2}$ miles; from mile 9 the road falls gradually to near mile 15 with easy grades, rising again to mile $17\frac{1}{2}$ with gradients often as steep as 1 in 18; near mile $16\frac{1}{2}$ a chain or two as steep as 1 in 13.9, and a shorter length of 1 in 11 occur.

7. A long and very severe gradient begins near $17\frac{1}{2}$ miles, and continues up to the 20th milepost; during this length the road rises 650 feet by gradients running generally from 1 in 18 to 1 in 25, but in several places gradients steeper than 1 in 18, each extending over a distance of 100 feet or more, are met with, as, for instance, near $17\frac{1}{2}$ miles 1 in 15.4 and 1 in 16.1, between 18 and 19 miles 1 in 16 in three separate places, between 19 and 20 miles 1 in 14.3, &c.

8. From the summit near the 20th milepost the road falls to $22\frac{1}{2}$ miles, where another long and severe rising gradient commences, extending as far as $26\frac{1}{2}$ miles; during this rise the height ascended is 854 feet, the gradients running generally from 1 in 18 to 1 in 25, with short lengths of steeper gradients at intervals, instances being lengths of 100 feet of 1 in 15.9, 1 in 13.3, and 1 in 16.4.

9. From $26\frac{1}{2}$ to 39 miles the road crosses undulating country, the gradients being frequently as steep as 1 in 18, with severer gradients of short lengths in places, an example being between $27\frac{1}{2}$ and $27\frac{3}{4}$ miles, where a continuous length occurs slightly steeper throughout than 1 in 18, containing stretches of 1 in 12.3, 1 in 15.4, and 1 in 16.7.

10. From 39 to $54\frac{1}{2}$ miles the road rises 1,240 feet over an undulating trace, and during its course gradients of 1 in 18 exist in many places with steeper gradients occasionally.

11. From $54\frac{1}{2}$ miles the long steep ascent to Shillong is encountered, which continues for $6\frac{1}{2}$ miles to the 61st mile; during this ascent the road rises 1,538 feet, and long gradients of 1 in 18 with short distances, each exceeding 100 feet in length, of steeper grades are met with, such as follows:—Near $54\frac{1}{2}$ miles 1 in 14.1, 1 in 15.6, and 1 in 12, succeeding one another over a distance of 300 feet; near $56\frac{1}{2}$ miles 1 in 13.3 and 1 in 14.6; near $57\frac{1}{2}$ miles 1 in 14.6; near $59\frac{1}{2}$ miles 1 in 14.3 and 1 in 15.6; near $60\frac{1}{2}$ miles 1 in 12.7; near $60\frac{3}{4}$ miles 1 in 10.7; near 61 miles 1 in 14.9 and 1 in 13, &c.

12. Continuing beyond mile 61 the road rises and falls, eventually attaining the altitude of 4,928 feet in Shillong. The steepest gradients noticed on this section are:—Near 61 miles 1 in 12.6; near $61\frac{1}{2}$ miles 1 in 15; near 62 miles 1 in 12.6, 1 in 9.3, and 1 in 14.9; near $62\frac{1}{2}$ miles 1 in 13.5 and 1 in 14.3; near $62\frac{3}{4}$ miles 1 in 12.6 over a continuous length of 700 feet; near $62\frac{1}{2}$ miles 1 in 1.12 and 1 in 11.8; near 63 miles 1 in 11.9; near $63\frac{1}{4}$ miles 1 in 14.

13. The alignment of the road at the commencement is fairly straight, but after $7\frac{1}{2}$ miles are passed it becomes exceedingly tortuous, and continuous so almost uninterruptedly until Shillong is reached; spur hills and gullies unceasingly intercept its course, which necessitate a continuous succession of reverse curves. These curves are frequently very sharp, their radii being about 30 to 40 feet, with occasionally some even less. On the sharpest curves the steepest gradients are often encountered.

Description of the Trials.

14. The first trial was conducted on February 1 from Gauhati to Shillong, and as the journey was long and the train untried on a hill road of this description an early start was proposed. Other preparations for the journey having been completed, an attempt to start the engine was made at 8 A.M.; the atmosphere, however, was excessively humid and the temperature low, and the engine

having been exposed all the previous night to heavy dew 1 hour 20 minutes elapsed before repeated effort to start the engine met with success. At length we left Gauhati at 9-20 A.M. The train, composed of locomotor and two goods trucks, carrying a load of 9 tons 5 cwt. consisting of rice, passengers, baggage, &c., proceeded steadily and satisfactorily until Nongpoh was reached at 2-12 P.M., the distance travelled being 30 miles; here we stopped for 1½ hour for lunch and to allow time for rest for the driver, who had found the strain in continually steering the train round sharp bends on the road combined with the constant change of gear, necessitated by the altering gradients, very fatiguing. On continuing our journey all went well until darkness set in; soon after this it was found that the lubricating oil in the reservoir of the motor was low; the replenishing occupied 20 minutes. At 44½ miles a compression tap joint on the engine began to leak; this had to be re-packed, involving a delay of 31 minutes. Later on, when ascending the hill to Shillong, in attempting to pass a cart on a narrow portion of the road the rear wagon broke down the edge of the side drain and dropped into it; this led to a further delay of 26 minutes whilst extracting the wagon. This was followed shortly after by a delay of a quarter of an hour in replenishing the radiator cooler with water. In due course we again proceeded on the journey, but had not travelled far when in negotiating a sharp bend the rear wagon, which had had its steering gear slightly damaged when being hauled out of the side drain, fouled a parapet wall. This happened late at night, and over two hours were spent in trying to clear the wagon; but after repeated effort had been made, and every one being completely tired out, it was decided to uncouple the wagon and proceed to Shillong without it. At length Shillong was reached in the early hours of the following morning.

15. It will be observed that the train travelled satisfactorily while daylight lasted, and it was not until darkness set in, and when the staff in charge of the train, who had been at work since sunrise, were thoroughly weary and exhausted from exertion, hunger, and cold, that trouble began and consequent delays occurred. Had a fresh driver been available for the latter half of the journey the slipping of a wagon into the side drain and the subsequent fouling of a parapet wall need not have happened, and the time taken to replenish the engine with lubricating oil and water would have been materially lessened; besides, the speed at which the train was driven during the latter part of the journey owing to darkness and the driver being tired out was much below what it was capable of doing. For these reasons it was quite clear that the train could have accomplished the journey in quicker time by several hours than that actually taken.

16 Particulars of delays during the journey are as follows:—

	Hrs.	min.
To pass Tonga	0	5
For lunch	1	45
To re-pack compression joint	0	31
To replenish oil reservoir of motor	0	20
To extricate wagon from drain	0	26
To re-fill radiator cooler with water	0	13
Due to wagon fouling parapet	2	3
Total ...	5	23

of which 1 hour 50 minutes were voluntary and 3 hours 33 minutes were involuntary stoppages.

17. It should be noted that throughout these records the time given for involuntary stops includes time spent in replenishing the engine with water and oil as well as in effecting repairs, &c.

18. On February 3 and 4 the truck that fouled a parapet was brought into Shillong, and its steering gear repaired, stronger axle arms being fitted in place of those that had become bent when the truck was hauled out of the drain. The bottom end bearing of a connecting rod on the engine which required attention was also re-fitted.

19. On February 5 the return journey was made from Shillong to Gauhati. The train, being composed as on the up journey, carried a useful load of 1 ton 5 cwt, consisting chiefly of passengers and their luggage. Trouble was again experienced in starting the engine, 3 hours being spent fruitlessly; finally, it was started at 8-38 A.M. by running the train down an incline, on which it was fortunately standing. In this case the engine had again been left over night uncovered and exposed to the atmosphere, and the temperature had fallen during the night below freezing point. The journey down was accomplished, without incident, in daylight. Particulars of delays are as follows:—

				Hrs.	min.
To pass Tonga	...	...	...	...	0 5
Do.	...	...	...	...	0 7
Do.	...	...	...	...	0 2
For lunch	...	...	...	...	1 27
To pass broken down motor	...	...	...	...	0 4
Total ...				1	45

of which the whole was voluntary.

20. On February 7 the second trial from Gauhati to Shillong was made; this time with an additional truck, the train being composed of locomotor and three goods trucks, carrying a useful load of 14 tons 4 cwt. An early start was again arranged for, but three hours were lost in endeavouring to start the engine; ultimately we got away at 8-30 A.M. The first 30 miles to Nongpoh were traversed without cause for special remark, with the exception that the speed attained was not great; but this is not surprising when it is remembered that the train was carrying over 14 tons, and that the gross weight of the train was 27 tons 14 cwt. A halt for breakfast was made at Nongpoh, where we arrived at 4-12 P.M., and continued our journey at 5-44 P.M. as daylight was disappearing. The next 14 miles were done without mishap, but, tired out as the staff in charge of the train was, this immunity from trouble could not be expected to continue long. First the driver became ill and the train was stopped for 11 minutes, then a terminal wire was jolted out of position and much time was lost in replacing it. In the 58th mile the train fouled a parapet wall, and after every endeavour had been made to get it clear one truck was uncoupled and left behind. Subsequently the train was stopped several times to rest those in charge, as they were completely tired out and incapacitated by fatigue, hunger, and cold. Eventually the train arrived on February 8 at Shillong Bazaar at 7 A.M., and at its destination at 8-30 A.M., the greater portion of the interval of time being spent in unloading goods, passengers, and baggage. On examining the engine after arrival it was found that some electrical connections were broken, and that only two out of the four cylinders of the engine had been working in consequence. It had been very noticeable during the last 20 miles of the run that the speed of the train was greatly reduced.

21. Particulars of delays as far as the 57th mile are as follows, beyond that they were not recorded:—

				Hrs.	min.
To recover dropped axle cap	...	...	...	0	15
To take photograph	...	...	...	0	9
To change speed	...	...	...	0	6
For lunch	...	...	...	1	32
To change speed	...	...	...	0	3
To pass cart	...	...	...	0	7
Driver ill	...	...	...	0	11
To replace terminal wire	...	...	...	0	42
Train fouled parapet	...	...	...	0	35
Total ...				3	40

of which 1 hour 59 minutes were voluntary and 1 hour 40 minutes involuntary stops.

22. During this trial the train was stopped to change gear on an up gradient of 1 in 11 round a curve of 20 feet radius and re-started with ease.

23. On February 11 a demonstration was made with the train in the vicinity of Shillong, and during the run the train, consisting of locomotor and three trucks, on which were a large number of passengers, was driven up a hill having an average gradient of 1 in 9.4 over a length of about 1,400 feet, with a maximum gradient of 1 in 7. On this hill the train negotiated a curve of 20 feet radius. It may be mentioned that this road was a narrow one, a plan and section of it* were kindly prepared and furnished by the Superintending Engineer, Public Works Department, Assam Circle, and are appended hereto and marked J.

24. The train, composed as on the up journey, returned to Gauhati on February 12, carrying a load of 4 tons 18 cwt. After spending 40 minutes in starting the engine, the journey was commenced at 8-28 A.M. The train travelled satisfactorily throughout this run, and nothing worthy of note happened until more than 60 miles were accomplished, when one of the steering wheels of the locomotor collided with a bullock cart after dark, resulting in the sheering off of three blocks of the rubber tyre; the time taken to replace these was half an hour.

25. During this run, whilst running on a down grade of 1 in 11, the train was on the application of the brakes readily brought to a standstill.

26. Particulars of delays are as follows:—

				Hrs. min.
In Shillong Bazaar to load ...	...	...	0	10
To take photograph of train	...	...	0	13
Do. ...	...	...	0	15
Do. ...	...	...	0	2
Do. ...	...	...	0	12
For lunch ...	...	...	1	9
To inspect road ...	...	...	0	4
To replace rubber blocks on tyre damaged by collision with bullock cart	...	...	0	13
Total ...			2	35

of which 2 hours and 5 minutes were voluntary and 30 minutes involuntary stops.

27. The third trial from Gauhati to Shillong was made on February 18. Unfortunately the driver, who had driven the train throughout the previous trials, had become incapacitated by fever, and there being no other driver available, Mr. Massy Burnside, the Superintendent Engineer to the Renard Transport Corporation, undertook to take his place on the engine. This trial was intended as a speed test to ascertain what the capabilities of the train were in connection with passenger traffic, but Mr. Burnside had had but little practice in driving the train; and as the physical strain of driving a train for so great a distance in one day over a trying road of this description was far greater than any one man could successfully stand, the result as regards speed was not so good as it might have been.

28. The engine had been carefully covered with paulins during the previous night, and a lighter oil than that used in the trails was utilized for starting the engine; these provisions gave satisfactory results, for within a very few minutes efforts to start the engine were successful, and the journey was commenced at 5-55 A.M. The train, composed of locomotor and two trucks, carried a load of 3 tons 18 cwt. With the exception of a leaking compression tap joint, the re-packing of which occupied 23 minutes, a stop of 12 minutes for carts to pass, a stop of 11 minutes to change speed, &c., 25 miles were covered in fair time. In the 26th mile a delay of 1 hour 10 minutes took place in opening up and cleaning the petrol strainer which had become choked, in

cleaning the plugs, &c. After this several delays occurred to replenish the radiator cooler with water and for passing carts. Ultimately we reached our destination in Shillong at 11 P.M. Particulars of delays are as follows:—

	Hrs.	min.
To re-pack compression joint	0	23
To pass carts	0	12
To change speed	0	11
To clean petrol strainer	1	10
To replenish radiator cooler with water ...	0	27
Do.	0	36
Do.	0	18
To pass carts	0	15
Do.	0	27
Do.	0	15
Total ...	4	14

of which 1 hour 9 minutes were voluntary and 3 hours 5 minutes involuntary stops.

29. The train was detained in Shillong owing to Mr. Burnside being laid up with fever until February 27, on which date it returned to Gauhati. As the engine had been covered up over night and by using light oil the engine started without much difficulty, and we left Shillong at 6-46 A.M. The journey was accomplished without incident and we arrived at Gauhati at 5-5 P.M.

30. Particulars of delays on this journey are as follows:—

	Hrs.	min.
To change speed	0	1
To pass cart	0	2
To change speed	0	2
Do.	0	2
To pass Tonga	0	1
To change speed	0	2
Do.	0	2
To pass Tonga	0	1
For lunch	0	49
To relieve driver	0	3
Total...	1	5

of which 56 minutes were voluntary and 9 minutes were involuntary stops.

Loads.

31. The loads carried by the train consisted, in addition to passengers and their baggage, of rice and general stores consigned by traders and others to and from Shillong. The train was capable of carrying greater loads on the second, fourth, and last two journeys, but for the first two greater loads were not available, and the last two were intended as tests of speed for passenger train.

Petrol.

32. The quality of the petrol used, though when the engine was working answered well, was unsuitable for starting the engine; the delays that occurred before commencing the first four journeys were principally accounted for by the unsuitability of this oil before the engine became warm and began to work; this was satisfactorily shown to be the case at the starts for the last two journeys, when, by using a lighter oil, the engine readily responded as soon as the starting handle was operated.

33. Throughout the trials the quantity of petrol consumed was in excess of what was actually required, as on no occasion was the petrol cut off from the engine when running downhill, and the resulting saving, which would have been considerable, was in consequence not made. The cause of this

was that the drivers, who were unacquainted with the road and scarcely ever able to see more than a hundred yards or so of the road in front of the train, feared that an upgrade might be confronted at any moment, which would involve the re-starting of the engine, and as this was attended with so much difficulty and delay, it was avoided as much as possible at all cost. . . .

34. On examining the causes given in the foregoing records, accounting for the stops on each journey, it will be noticed that the causes due to defects or repairs required in the machinery of the train were but few and not of great moment. Throughout the six journeys, the aggregate time spent on which amounted to more than half a week, they were (a) to re-pack compression tap joint twice; (b) to recover axle cap which had dropped; (c) to replace electric terminal wire; (d) to clean petrol strainer; (e) to replace rubber blocks on wheel tyre. Of these, (b) was due to carelessness of the cleaner in not fixing it properly; (c) can be avoided by arranging for terminal wires to be screwed in instead of being fixed in a socket; (d) was due to dirt in the petrol; (e) was brought about by a collision with a cart, and therefore should not be taken into account.

35. Attention, however, must be drawn to the excessive trouble experienced in starting the engine; at times hours were vainly wasted in this operation; moreover, the time spent on the stops during the journeys was materially augmented by the time lost in getting the engine re-started. A "self-starter" is, I was informed, supplied when required, and I was shown drawings which included this arrangement, but one was not fitted to this train, as it was supposed in India such fittings would be unnecessary. I should add that during the trials in Calcutta, where the temperature was high, and presumably the petrol used was a lower flashing point spirit, no difficulty was at any time experienced in starting the engine. But owing to the intolerable trouble and delay that occurred during the trials under review, due to the difficulty in starting the engine, it is recommended that a "self-starter" be included in all specifications of Renard engines that may be ordered.

Effect of Train on Surface of Road.

36. With a view to forming some idea as to what damaging effect the train produced on the road surface, I examined the surface several times after the train, both when running light and when heavily loaded, had passed over the road; but the effect was so slight that none was observable.

37. In considering, however, to what extent roads may be affected by Renard trains as compared with known results of cart traffic, the following points should receive attention:—

(a) The heaviest loaded axles in the train are furnished with wheels having tyres 8 inches wide, and the weight on each of these wheels is 2 tons 1 cwt., this will give a pressure on the road surface of 5·2 cwt. per inch breadth of tyre; whereas in the case of a loaded bullock cart, the gross weight of which is say 2 tons and the wheel tyres 1½ inch wide, the pressure per inch breadth of wheel tyre is 11·4 cwt., or more than double that in the case of the Renard train.

(b) In addition to the lesser wearing effect of the train on the road surface that may be expected for the reason shown in (a) above, a still further reduction in the wear may be looked for owing to the train being spring-mounted on all axles, whereas bullock carts are without springs.

(c) In the ordinary nature of things trains are not driven along one track, such as bullock carts follow; the wear is therefore distributed over a greater surface of the road, and less destruction to the road should result.

(d) On the other hand, the higher speed of the Renard train will doubtless cause greater wear than the slower moving bullock carts.

(e) Again, when the road surface becomes worn and depressions are forming, the increased hammering effect on the sides and bottom of each depression, which would result from the greater speed of Renard trains, would unquestionably tend to destroy the surface more rapidly.

(f) The diameter of the wheels of the Renard train being somewhat shorter than those on bullock carts, the weights are distributed over a less area of contact with the ground, and would therefore have a slightly more damaging effect, more especially when depressions are forming.

38. Though it is impossible to calculate or foretell what wear on the road surface may be produced by Renard trains, and consequently to what extent the cost of maintenance may be affected, it would not be surprising if experience eventually showed that such heavy transport travelling at higher speed than bullock carts proved far more destructive than the latter.

39. When roads are worn, the speed at which trains are driven should be reduced, otherwise destruction of the road surface would inevitably be hastened.

40. To obtain the best results, both in reduced cost of upkeep of roads and in lessening the damaging effect to the machinery of the train that would follow from jolting over uneven surfaces, roads should be maintained in as good order as is practicable.

41. On roads where Renard trains are running excessive camber to the surface should be avoided, so that the full width of the wheel tyres may bear upon the ground.

General Remarks.

42. The road on which the trials under review were conducted is sufficiently severe both in alignment and gradients . . . to serve as a test of the Renard train's capabilities of negotiating hill roads such as exist in Ceylon.

43. Generally speaking, the trials have demonstrated that the gradients on the Ceylon roads are not too severe for these trains to travel over, and that the curves, with certain exceptions, are not sharper than they can manage.

44. A train loaded with over 14 tons successfully ascended long gradients of 1 in 18 to 1 in 25, and gradients as steep as 1 in 12, and in one instance a gradient of 1 in 11 on a curve of 20 feet radius, on which it stopped and re-started without difficulty; on this occasion the engine was geared to the lowest of the four top speeds, there being, besides these speeds, four lower speeds which can be utilized on severer hills or when heavier loads require them.

45. It is recommended, however, that on all roads on which it is proposed to run these trains that gradients, if steeper, be improved where practicable so as not to exceed 1 in 17 or at the worst 1 in 15, and that curves of less than 50 feet radius be eased.

46. Before these trains are allowed on any road, it should be first ascertained whether existing curves are of suitable radius, and whether the bridges are of sufficient strength. It should be also carefully considered whether the width of the road will admit of other vehicles passing; if not, it would seem necessary that passing places be constructed.

47. The Chief Engineer of the Railway Board of India, who attended the trials, approached the Renard train representative with a view to having a modified design of the train prepared, with the overall width of the train reduced to 5 ft. 6 ins., for use on hill roads, as it was found that the train practically monopolized the whole road to the exclusion of other traffic. A revised design on these lines will in all probability be made.

48. From what I have observed in the working of Renard trains during both the trials in Calcutta and Assam, I am fully convinced that competent supervision of a European Engineer having a first rate knowledge of petrol motors is absolutely essential and that as the driving of the train requires much greater skill and mechanical knowledge than that demanded of a driver of a locomotive on rails, only European drivers, preferably those trained to drive these trains at the Daimler Co.'s Works, should be employed, at any rate until local drivers have been trained and found competent.

49. It cannot be stated too emphatically that the staff in charge of the Renard train, including the leading mechanics at the depôts, should be the best obtainable.

50. In order that the best results may be obtained in the cost of running and maintenance, the best course would probably be that the pay of the drivers be fixed on a basis of fixed pay and mileage performed, so as to conduce to careful driving.

51. It has been frequently shown during the trials that no necessary expenditure in keeping the train in thorough repair, in the pay and sufficiency of the staff employed, and in the supply of lubricants should be grudged, and that ample time should be arranged for periodically, say every six months, for thoroughly overhauling the motor, otherwise increased cost of maintenance, unreliability of running, and unnecessary depreciation in the value of the stock will assuredly follow.

52. An ample supply of spare parts should be at all times available.

53. Trains running on hill roads with constantly varying gradients should not be overloaded, so that the necessity for changing speed and the resulting damaging effect on the gearing may be avoided as much as possible.

54. It was noticed during the trials that when the train exceeded 9 to 10 miles per hour, the rear wagon swayed a good deal, and as swaying is attended with danger, a limit of speed should be enforced.

Desirable Improvements in Train.

55. The following improvements are suggested for trains for hill roads:—

Reduction in overall dimension in width of train (for India a limit of 5 ft. 6 ins., is proposed).

Safety couplings between the vehicles.

Removable guard to cover end of shaft at rear of train.

"Self-starter" to engine.

Improved starting handle; the starting handle in use is too small and inefficient.

Hand brake on each vehicle should be made available for use from the floor of the vehicle.

Steering arms on engine and on vehicles should be made heavier.

Stronger springs required on trucks.

Some device required for measuring petrol in tank.

Iron in place of brass for lubricator caps.

Levers of change speed gear to be lengthened.

Stronger steering bars between vehicles.

I am, &c.,

C. A. LOVEGROVE,

Assistant Director of Public Works.

The Lady Amptill Nursing Institute.

The President of this Institute has addressed to the Secretary, U. P. A. S. I. a copy of the following circular:—

As President of the Committee of the Lady Amptill Nursing Institute, I beg to draw your attention to the following facts, and to try and enlist your sympathy on behalf of this Institution.

I would first of all mention that outside this Institution, Nurses in Madras are practically not to be obtained. Employers of Nurses taken from the Lady Amptill's Nursing Institute may moreover have the satisfaction of knowing that Nurses sent out from it have been carefully selected and are at all times under careful supervision.

Under the new rules, of which I send you a copy, you will see that subscribers will obtain a considerable advantage in case of their employing Nurses over persons who do not subscribe.

The Nurses of the Institute are employed in all parts of the Presidency, and their services are not confined to Madras City or its neighbourhood. For instance, last year, the Nurses were sent on duty to the following places:—

Ootacamund, Vizianagram, Yellamanchili, Kodaikanal, Mangalore, Ernakulam, Podanur, Dindigul, Bangalore, Tanjore, Coimbatore, Calicut, Travancore.

core, Cocanada, Kurnool, Cuddalore, Yercaud, Palghat, Madura, Waltair, Ramandrug, Pondicherry and Vellore.

This is believed to be the only Institute in India which provides nursing for Indian families as well as Europeans.

From the copy of the report for the year 1907-1908 you will see that the Committee had to regret the lack of interest taken in the Institute by the general public. The assistance hitherto given by the Government is likely to be curtailed in the future and the matter is serious, as, unless more local support is obtained, the Committee fear they may be compelled to close the Institute, or at all events limit its sphere of work considerably.

Considering the very valuable advantages which are conferred from it, this step would be deplorable. The Committee therefore earnestly hope that this appeal which I have been requested to make may be successful.

I am to ask whether you will join the Committee of the Institute as an up-country member, and not only subscribe yourself, but use your best efforts to obtain other subscribers, and further the work of the Institute, bringing it to the notice of as many persons as possible.

The Committee hope that when you come to Madras you will visit the Institute, when the Matron in charge will be glad to give you all information possible on the spot.

The Indian Tea Cess Committee.

On the recommendation of the U. P. A. S. I, the Governor-General of India in Council has appointed Mr. George Romilly, of Madras, to fill the vacancy on the Indian Tea Cess Committee caused by the resignation of Mr. P. R. Buchanan.

Coffee in Java.

Mr. Consul J. W. Stewart reports that crops of both Liberian and Arabian Coffee in Java in 1908 were considerably in excess of the 1907 output. The production during the last three years is shown below in tons:—

			1906.	1907.	1908.
Government—					
Arabica	...	...	9,180	833	4,225.
Liberia	...	...	1,088	1,825	765.
Private—					
Arabica	...	...	15,468	6,770	10,736.
Liberia	...	...	1,610	1,800	3,015.

The estimate for 1909 is very low: Government—Arabica 1,433 tons Java, 683. Private—Arabica 4,808 tons; Liberia 3,865.

Planters are now turning their attention to "Robusta" Coffee, a species of African coffee which seems well suited to the climate and soil of Java. The quality is inferior to the Arabica and Liberia, but compensation is found in the fact that the trees are less liable to leaf and other disease and begin to bear in their third year. It is estimated that about 300 tons of this coffee will be produced during 1909.

Mr. Consul-General H. L. Churchill reports from Havre:—"The importations of Coffee in 1908 show a considerable decrease as compared with 1907, the last two Brazilian crops, those of 1907-08 and 1908-09, having been very moderate, whilst the crop in 1906-07 was exceptionally good. During the last months of 1906 and until August, 1907, no less than 2,000,000 bags were shipped to Havre from Rio and Santos for the account of the valorisation, these shipments being in excess of the ordinary importations."

The area under Rubber cultivation in Java was further increased during the year 1908. Exports are still, as for some years they must continue to be, on a limited scale, but the small quantities of *Ceara*, *Castilloa* and *Ficus elastica* which have been shipped have sold at high prices. *Hevea* has so far only gone forward in sample lots, but these have been sufficient to prove that Java Pará Rubber is as good as either the Federated Malay States or Ceylon Rubber.

DISTRICT PLANTERS' ASSOCIATION.**Wynaad Planters' Association.**

*Proceedings of a General Meeting held at the Meppadi Club, on
Wednesday, June 9th, 1909.*

Present:—Messrs. EWART, MACKINLAY, POWELL (Jnr.), TROLLOPE and B. MALCOLM (*Honorary Secretary*).

In the Chair.—Mr. W. Mackinlay.

Proceedings of last Meeting.—Confirmed.

1466. (a). **Attesting of Labour Contracts.**—READ correspondence between the Honorary Secretary and Chief Secretary to Government, and between Honorary Secretary and Collector of Coimbatore, *re*: Proposal to appoint Attesting Agents in Coimbatore, to be nominated and paid by the Association.

READ G. O. No. 612 of May 10th, 1909. stating that the Government see no reason to extend the existing list of officers in Coimbatore.—*Recorded with regret.*

(b.) READ G. O.'s appointing Messrs. Hudson, Emerson and Bisset Attesting Magistrates, to attest Contracts under Act I of 1903.—*Recorded.*

1467. **Remission of Taxes.**—READ letter from the Deputy Collector of Wynaad.—*Recorded.*

1468. **Roads.**—READ letter from Mr. West, complaining that very slow progress was being made in the repairs to Bridges on Road 35B, and more especially with the Bridge at 20th mile 2nd furlong.

READ Honorary Secretary's letter to District Board Engineer.

READ District Board Engineer's reply saying that "Every effort is being made to get the Bridge in 20th mile completed and the wooden bridges attended to;" and pointing out the difficulty of getting labour on this road.

READ Honorary Secretary's reply pointing out that the difficulty in getting work done on this road is due to the lateness with which the work is commenced, considering the unhealthiness of the portion of the district in which the road lies; and that less difficulty would probably be experienced if the work were done between June and December; also pointing out the want of Shelter Sheds on this road.—*Recorded.*

READ letters from Mr. Bousfield, complaining of the condition of Road 38, and especially of portions of mile 21 and 22.

READ Honorary Secretary's letter to District Board Engineer, quoting extract from Local Fund Engineer's letter of January 12th, 1909, stating this portion of the road was having attention, to which no reply had been received.—*Recorded.*

1469. **Gun Licenses.**—READ Proceedings of District Magistrate of Malabar, dated April 15th, 1909; also letter from Deputy Collector of Wynaad.—*Recorded.*

1470. **Police.**—READ letter from Mr. McCarrison.—*Recorded.*

READ letter No. 569, dated 19th March, 1909, from the Deputy Inspector-General of Police, enclosing copy of his report to the Inspector-General, recommending a reduction in the number of the Coffee-stealing Preventative Police Force between November 1st and the end of February; and suggesting that instead of 2 Head Constables and 20 Constables, the Force should consist of 1 Head Constable and 1 Constable, to be posted at Lakadi, and from November 1st to end of February the Vayitri Division should be strengthened by 7 men, to be employed at stations where most needed.

Resolved.—That in view of the altered circumstances of the Coffee industry in this district, the Association thinks the proposed alteration in the strength of the Force will meet necessary requirements. At the same time, with reference to the point mentioned in the Report that very few cases were reported, the Association records its opinion that this points to the fact that the Preventative Police Force has answered its purpose in the past.

District Superintendent of Police, S. Malabar.—It was resolved that Mr. Travers-Phillips, District Superintendent of Police, S. Malabar, be elected an Honorary Member of this Association.

1471. *Taluq Board Member.*—READ letter from Deputy Collector of Wynaad, asking the Association to appoint a member to act in place of the Hon'ble Mr. Abbott, who had resigned.

The Honorary Secretary was instructed to suggest Mr. Emerson, if he is agreeable to act, and if not, to try and arrange with some other member of the Association to accept the appointment; also instructed to request that the Association member on the District Board should also represent the Association on the Taluq Board.

1472. *Tea Thefts.*—READ letter from the Honorary Secretary, Nilgiri Planters' Association, enclosing copy of letter from Mr. J. McKenzie, of Prospect Estate, reporting theft of contents of a case of tea which had been substituted by shells, sand and wood; also read letters from Mr. Nicolls and Messrs. Ferguson & Co.—*Recorded.*

1473. *Pudupudi Hotel Stables.*—READ letter from Mr. Waddington, enclosing account of cost of erecting the stables amounting to Rs.323-12-3; of this sum Rs.95 had already been promised by 4 members.

Resolved.—That the Honorary Secretary do write and thank Mr. Waddington for all his trouble in erecting the building; also that a list be sent round asking those members in the district who had not already done so, if they would subscribe Rs. 12 each, which would cover the balance; and in the event of the full amount not being forthcoming, the balance be paid out of the Association funds; also instructed to point out to members that the building had no sides or partitions and to enquire whether any members, more especially interested, would subscribe a further sum for the purpose of erecting these.

1474. *Rinderpest.*—READ letter from the Deputy Collector of Wynaad, dated June 3rd, 1909, stating that Mr. James, Veterinary Assistant, had been appointed to carry out inoculation of cattle; also letter dated 9th June, stating that Mr. James was ill with fever and going on leave.

Resolved.—That the Association trusts the matter will continue to receive attention.

1475. *Pepper Stealing.*—Mr. Malcolm reported that he had had some of his Panora Pepper robbed on the Calicut road and gave details of the information he had received.

Proposed by Mr. Trollope, and seconded by Mr. Mackinlay: "That as this Pepper stealing is a serious matter, the Honorary Secretary write and request the District Magistrate to order the Police to charge the case before a first-class Magistrate, and if the case is proved, to instruct the Magistrate trying the case to make an example of the offenders."—*Carried unanimously.*

1476. *Inquests.*—READ letter from the Deputy Collector of Wynaad, requesting that in the event of unnatural or accidental deaths being reported to the authorities, the cover may be marked *urgent* in red ink to ensure prompt attention; and that as the second-class Magistrate is not always at headquarters, a letter to the nearest Station House Officer of Police will bring that officer to the Estate concerned.

The Association trusts members will comply with the Deputy Collector's request.

1477. *Ground Nuts.*—READ letter from Tahsildar of Wynaad, stating that a supply of this seed was expected shortly, and that if any member wished to try the cultivation he would send them seed on hearing what acreage they proposed putting down.

Resolved.—That members wishing to try this are requested to apply to the Tahsildar.

1478. *U. P. A. S. I., Madras Planters' Labour Act.*—READ circular 38/09 and correspondence, and judgment of the Assistant Magistrate of the Nilgiris in the case referred to.

READ Honorary Secretary's reply.—*Approved.*

1479. *Scientific Officer.*—READ circulars 32/09, 34/09, 36/09 and Honorary Secretary's reply, and 41/09; also letter of June 1st, 1909, from Secretary, U. P. A. S. I., and reply.

Resolved.—That Mr. Anstead be particularly requested to visit the district in November, if possible, as the Pepper disease will then be probably at its height.

1480. *Annual Meeting.*—READ circular 40/09: Honorary Secretary instructed to reply that August 31st would probably suit the delegate from this district.

1481. *Pepper Vine Disease.*—READ circular 39/09, stating that the Secretary, U. P. A. S. I., had received a copy of Proceedings of Government of Madras, No. 1430 Mis., dated 22nd May, stating that "as Dr. Butler is on leave, the Inspector-General of Agriculture will be requested to depute, if possible, Mr. MacRae, the acting Imperial Mycologist, to visit the Wynaad to investigate the Pepper Vine Disease."—*Recorded with satisfaction.*

The Honorary Secretary was instructed to endeavour to get the time for this visit arranged for November.

Circulars 23/89, 25/09, 24/09, 22/09, 20/09, 21/09, 27/09, 37/09, 28/09, 31/09, and 33/09 read with Honorary Secretary's replies, where any.—*Recorded.*

READ letter from Secretary, U. P. A. S. I., enclosing copy of circular letter from Mr. G. H. Krumbiegel, Superintendent of Mysore Government Botanic Gardens, requesting that Exhibits be sent to the Dasara Exhibition.

Resolved.—That the circular be printed and circulated by the Honorary Secretary to members who may be interested.

A vote of thanks to the Chair terminated the Proceedings.

(Sd.) W. MACKINLAY,
Chairman.

(Sd.) B. MALCOLM,
Honorary Secretary.

Tea in Java.

In respect to Tea in Java the results of the new clearings of the past years are now becoming manifest in a greatly increased production, and exports for 1908 reached the record figure of 36,579, 536 British lbs. as against 29,286, 402 lbs. in 1907 and 16, 736,157 lbs. in 1901, which means that production has more than doubled in the last seven years. As there are few Tea estates in the Island on which fresh planting is not being carried on to a greater or less extent and as several new estates are being opened up, it seems likely, says the British Consul, that at no very distant date the export of Java teas will reach 50,000,000 lbs. The exceptionally high level of prices reached during the latter months of 1907 was not maintained in 1908, but prices obtained for all grades of Teas have on the whole been good. Several new Companies have been formed during the past 12 months and a fair amount of British capital has been invested in them.

TEA EXPORTS.

	lbs.
1906	27,517,615.
1907	29,286,402.
1908	36,579,536.
Netherlands	20,059,252.
United Kingdom	12,629,117.
Russia	1,294,546.
Singapore, for transhipment to North China for	
Russia	2,061,162.
Australia	335,095.
Other countries	200,364.

INDIAN TEA ASSOCIATION, CALCUTTA.

Extract from Abstract of the Proceedings of a Meeting of the General Committee, held on May 18th, 1909.

*Correspondence with the Indian Tea Association (London).—*Letters, dated 23rd and 30th April, from the Secretary of the Indian Tea Association (London) which had been previously circulated, were now ordered to be recorded.

The Home Budget.—Sir James Buckingham referred to the uncertainty as to whether the Tea Duty would be enhanced and quoted the figures of duty payments—including re-exports—from 1st to 21st April in 1908 and 1909, respectively. The totals were, for 1908, 12,759,043 lbs. and for 1909, 31,800,777 lbs. He also mentioned that on the day previous to the announcement of the Budget enormous business was done at Lloyds in tea and sugar anticipations. Against an increase on tea 40 guineas per cent. was asked; and the premium in the case of sugar was from 30 to 35 guineas per cent.

Opening Tea Sales.—It was noted from a circular of 8th May issued by the Calcutta Tea Traders' Association, that the opening sale for the season 1909-1910 had been fixed for Wednesday, the 9th June. The second sale will be held on Friday, 18th June.

Scientific Department: Dr. G. D. Hope.—With a letter of 4th May, Dr. G. D. Hope, the Chief Scientific Officer, forwarded a short note regarding his recent tour in Sibsagar, South Sylhet and Cachar. During his tour, which lasted some six weeks, Dr. Hope visited a number of gardens and remained for some time at Kanny Koori, the Association's Entomological station. He also attended the Meeting of the Surma Valley Branch Committee, held on 26th April, and addressed the members present on the programme of the Scientific Department for the year. Dr. Hope forwarded with his letter a brief report on the work carried on at Heeleaka during his absence.

Extract from Abstract of the Proceedings of a Meeting of the General Committee, held on June 1st, 1909.

Planters' Association of Ceylon.—The Proceedings of a Meeting of the Committee of the Planters' Association of Ceylon, held on the 14th May, were to be recorded. Reference was made, in the Proceedings, to a despatch from the Secretary of State for the Colonies on the subject of *Anchylostomiasis* in the Tropics in which there were summarised the conclusions of the Committee which sat under Sir Patrick Manson to consider what measures might be recommended for the prevention of the disease. The despatch stated that the Secretary of State was of opinion that no hardship could be involved in compelling estate owners, local bodies and private persons to take such reasonable precautions as experience had shown would minimize the constant drain on the resources of the community which the existing state of affairs involved. The General Committee noticed this reference with interest, as the disease mentioned is prevalent throughout the Tea districts.

European Representation on Legislative Councils.

MEMO:—The subjoined correspondence is published for information.

No. 422-O., Calcutta, the 14th May, 1909.

From—The Secretary, Indian Tea Association.

To—The Secretary to the Government of Eastern Bengal and Assam.

I am directed by the General Committee of the Indian Tea Association to refer to previous correspondence ending with my letter No. 26-O., dated the 10th January, 1908, on the subject of the enlargement of Legislative Councils. In that letter the Committee submitted their views on the proposals put forward by the Government of India in the marginally noted letter, and they

Letter No. 2310-17, dated 24th August, 1907, from the Government of India. Home Department, to the Local Governments and Administrations.

made certain suggestions as to the more adequate representation of the Tea Industry on the different Councils. In regard to the Imperial Legislative Council, the suggestion of the Committee was that one seat should be allotted to a representative of planting interests. And with reference to the Eastern Bengal and Assam Legislative Council it was asked that two seats should be given—one to a nominee from the Tea districts, the other to be placed at the disposal of this Association.

2. The Committee have read with great interest the despatch of 1st October, 1908, from the Government of India to the Secretary of State, and Lord Morley's reply of 27th November, 1908. From these it appears that the suggested formation of an Imperial Advisory Council and of Provincial Advisory Councils, which was an important feature of the scheme as originally put forward, has been abandoned. From the first schedule to the Indian Councils Bill now before Parliament, the Committee see that the maximum number of members of the Imperial Legislative Council is likely to be fixed at sixty, the maximum number for the Legislative Council of Eastern Bengal and Assam being fifty; and the recommendations of the Government of India regarding the representation of European Commercial interests on these Councils have been accepted by the Secretary of State.

3. On the Imperial Legislative Council it is proposed to give two seats to non-official Europeans—one representative to be elected by each of the Bengal and Bombay Chambers of Commerce. The Committee venture to repeat that in their opinion such an arrangement is unsatisfactory, inasmuch as it leaves entirely out of account the important planting interests of the mofussil, and they desire to express the hope that the matter may be yet further considered. In an enlarged Council it should be made possible to find room for the direct representation of the great planting interests which Europeans have in India, and the Committee do not think they are unreasonable in again putting forward their previous suggestion—that one seat on this Council should be allocated to a representative of European interests in the mofussil. The election of such a member might be made alternately by the Behar Planters' Association and this Association.

4. Turning now to the constitution of the Council for Eastern Bengal and Assam, the Committee are glad to observe that it is proposed to do away with the inadequate system hitherto in force there, and that, instead of combining the representation of tea and jute interests, each of these is now to be allowed direct representation. The Committee feel strongly, however, that this arrangement does not go far enough. They accordingly desire to emphasise what they stated in their previous letter—that they consider the circumstances warrant the industry having two representatives on the Provincial Council, one of these two to be nominated by this Association, the other to be elected from the tea districts. No difficulty is involved in having effect given to the proposal: on the contrary, the fact that the Council has been enlarged, together with the decision of Lord Morley to dispense with the official majority, so far as Provincial Councils are concerned, makes it so easy that the Committee can see no reason why their suggestion should not be given effect to.

No. 2218-A., *Shillong, the 28th May, 1909.*

From—The Hon'ble Mr. P. C. Lyon, C.S.I., I.C.S., Chief Secretary to the Government of Eastern Bengal and Assam.

To—The Secretary, Indian Tea Association.

I am directed to acknowledge the receipt of your letter No. 422-O., dated the 14th May, 1909, on the subject of the representation of Tea interests on the new Imperial and Provincial Legislative Councils, and to say that the views of the Association will receive careful consideration. The matter is now before the Government of India,

OFFICIAL PAPERS.

THE NEW CEYLON LABOUR ORDINANCE.

Ordinance enacted by the Governor of Ceylon, with the advice and consent of the Legislative Council thereof.

No. 9 of 1909.

**An Ordinance to amend Ordinance No. 13 of 1889, intituled
"An Ordinance amending the Law relating to Indian
Coolies employed on Ceylon Estates."**

HENRY MCCALLUM.

Preamble. WHEREAS it is expedient to amend Ordinance No. 13 of 1889, intituled "An Ordinance amending the Law relating to Indian Coolies employed on Ceylon Estates," in certain particulars: Be it therefore enacted by the Governor of Ceylon, by and with the advice and consent of the Legislative Council thereof, as follows:

Short title and commencement. 1. (1) This Ordinance may be cited as "The Indian Coolies' Ordinance, 1909," and shall be read and construed as one with Ordinance No. 13 of 1889 and the Ordinance amending the same.

(2) It shall come into operation at such date as the Governor, by Proclamation in the *Government Gazette*, shall appoint.

Amendment of section 3. 2. (1) For the definition of the word "labourer" in section 3 of the principal Ordinance, the following definition shall be substituted:

"Labourer" means any labourer and kangani (commonly known as Indian coolies) whose name is borne on an estate register, and includes the Muhammadans commonly known as "Tulicans."

(2) The following definitions shall be added at the end of section 3:

"Check-roll" means the record kept on an estate showing the work done by labourers employed under a monthly contract of service with the estate, the wages earned by them, the advances made, and the monthly balance of wages due to them.

"Register" means the book required to be kept by section 22.

Addition of new section 4A. 3. The following section shall be added immediately after section 4 of Ordinance No. 13 of 1889, and shall be numbered 4A:

4A. No criminal proceedings shall be instituted against any labourer for any offence under section 11 of Ordinance No. 11 of 1865, as amended by "The Servants' and Labourers' Ordinance, 1905," after thirty-six months shall have elapsed from the date when such offence is alleged to have been committed.

Substitution of new section 6. 4. The following section shall be substituted for section 6 of Ordinance No. 13 of 1889:

Payment of wages. (1) It shall be the duty of every employer to pay the wages of the labourers in his employment monthly

- within one month from the expiration of the month during which the wages have been earned.
- (2) Where wages are payable at a daily rate, the monthly wages shall be computed according to the number of days on which the labourer was able and willing to work and actually demanded employment, whether the employer was or was not able to provide him with work. Provided that an employer shall not be bound to provide for any labourer more than six days' work in the week.
 - (3) When the contract of service is determined by one month's previous notice or warning by the labourer to the employer or by the employer to the labourer, all wages due to the labourer for his period of service shall be paid in full to him by the employer on the day when such contract is so determined as aforesaid.
 - (4) In computing the amount of wages due to a labourer for any period of service, the labourer shall be debited with the amount of all advances of money made to him by his employer and with the value of all food, clothes, or other articles supplied to him, which the employer is not liable in law to supply at his own expense.
 - (5) The wages of a labourer shall not be deemed to have been duly paid as required by this section, unless—
 - (a) The full amount thereof, subject only to the deductions allowed by sub-section (4), has been paid directly to the labourer himself; or
 - (b) At least one-half of such full amount, after such deductions as aforesaid, has been paid directly to the labourer himself, and the balance has been paid to some person expressly authorized by the labourer to receive the same on his behalf or on his account, and the receipt of such person for such payment has been delivered to the labourer.
 - (6) Where, owing to the absence of any labourer or to any other unavoidable cause, it has not been possible to pay him his wages within the time limited by this section, the employer may retain the sum due to such labourer and shall thereafter pay it to him at the earliest possible opportunity.
 - (7) Any employer who fails to pay the wages of any labourers in his employment within the period limited by sub-section (1) shall be guilty of an offence, and shall be liable on conviction to a fine which may extend to fifty rupees on a first conviction, and to two hundred rupees on a second or subsequent conviction. If any fine imposed under this section is not paid within twenty-one days of the date when the same is imposed, the Government Agent may recover the amount thereof in the manner provided by section 23 of "The Medical Wants Ordinance, 1880."
5. The following section shall be added to Ordinance No. 13 of 1889 and shall be numbered from 19 to 30: Addition of new sections.
19. From and after the commencement of this Ordinance no kangani, subordinate kangani, or labourer shall be liable to arrest under the provisions of "The Civil Procedure Code, 1889," in execution of a decree for money. Immunity of labourers from arrest on civil process.

Notice to determine contract of service.

20. A notice or warning of the intention of any labourer to determine his contract of service, if given by any other person on behalf of the labourer, shall not begin to run or be in any way effectual in law, unless and until the labourer has personally signified to his employer his desire to determine his contract of service.

Declarations that labourers have been duly paid.

21. (1) It shall be the duty of every employer to forward to the Government Agent of the Province in every month a declaration under his hand that the wages of the labourers in his employment have been duly paid as required by this Ordinance.
- (2) Every such declaration shall be forwarded so as to reach the kachcheri within thirty-four days of the last day of the month for which the wages were earned, and shall be in form I. in schedule C hereto.
- (3) Where an employer has given notice in writing to the Government Agent with regard to any estate under his charge that the duty of forwarding the declaration required by this section has been entrusted to an assistant superintendent, such assistant superintendent shall thereupon be bound to comply with the requirements of this section.
- (4) Any employer, or any assistant superintendent who is bound as aforesaid to comply with the requirements of this section, who fails in any month to furnish the declaration required by this section within the prescribed time, shall be guilty of an offence, and shall be liable, on a first conviction, to a fine which may extend to twenty rupees, and, on a second or subsequent conviction, to a fine which may extend to one hundred rupees.
- (5) Any employer or assistant superintendent bound as aforesaid who knowingly furnishes a declaration which is false or incorrect in any material particular shall be guilty of an offence, and shall be liable on conviction to imprisonment of either description which may extend to three months, or to a fine not exceeding five hundred rupees, or to both.

Duty of employer to prepare and keep a complete register of labourers.

22. (1) It shall be the duty of every employer to prepare and keep up-to-date a complete register of all labourers employed on his estate, whether borne on the check-roll or working on any form of contract. Such register shall be as nearly as material in form II in schedule C hereto. Every employer shall, within three months from the commencement of this Ordinance, forward to the Government Agent of the Province a copy of such register certified under his hand to be correct. Any employer who fails to forward a copy of the register certified as aforesaid within the appointed time shall be guilty of an offence, and shall be liable on conviction to a fine which may extend to twenty rupees, and to a further fine not exceeding five rupees for every day during which such default shall continue.
- (2) Every employer shall forthwith enter on the register the names of any labourer who shall be taken into employment on his estate, whether on monthly contract of service or any other form of contract. He shall also, whenever a labourer dies or quits service, record the fact and the date thereof in the register

Any employer who fails to comply with the requirements of this sub-section shall be guilty of an offence, and shall be liable on conviction to a fine not exceeding twenty rupees.

23. (1) From and after the commencement of this Ordinance no employer shall take into his employment, or allow to be employed on any contract on his estate, any labourer other than a boy or girl who has been born in Ceylon and has not previously been employed on an estate, unless he has received in respect of such labourer—
 - (a) A discharge ticket issued and forwarded to him by some other employer in accordance with section 24; or
 - (b) In the case of a newly imported labourer, a certificate issued from the cooly depôt at Ragama in accordance with section 25; or
 - (c) A certificate issued by a Police Magistrate in accordance with section 26.
 - (2) Any employer who shall take into his employment or shall allow to be employed on any contract on his estate any labourer in contravention of this section shall be guilty of an offence, and shall be liable on conviction thereof to a fine which may extend to five hundred rupees, or to imprisonment of either description for a term not exceeding six months, or to both.
 24. (1) Whenever any labourer quits the service of any employer, having given the notice or warning required by law, or having been authorized to do so by his employer by means of the document known as a *tundu*, it shall be the duty of the employer to prepare a discharge ticket as nearly as material in the form III. in schedule C. If the labourer entered the service of the employer on a discharge ticket, the employer shall file such discharge ticket in his office and shall prepare a new discharge ticket.

Prohibition of employment of labourers without discharge ticket or certificate.
 - (2) Where the labourer quits the service of his employer in order to take service with some other employer in Ceylon, the former employer shall forthwith forward the discharge ticket to the new employer. But in no case shall the discharge ticket be given to the labourer.
 - (3) Where a labourer has given the notice or warning required by law, but has not, at the time when he quits the service of his employer, secured any other employment, it shall be the duty of the employer to give him a memorandum in the form IV. in schedule C stating that the labourer has duly given notice and that a formal discharge ticket will be issued to any new employer on application; and also stating the amount of the labourer's unliquidated liability, if any. Upon such application being made, it shall be the duty of the employer to forward to the new employer within five days of the date of application a discharge ticket, on which shall be stated the amount of the labourer's unliquidated liability, if any, to the estate or to any kangani employed thereon.
- Duty of employer to issue and forward discharge ticket, and penalty for default.

- (4) Where any employer, having taken into his employment any labourer upon a discharge ticket showing that such labourer was indebted to any previous employer, issues a discharge ticket for such labourer to another employer, he shall state on such last named discharge ticket the amount of the labourer's unliquidated liabilities, if any.
- (5) Where a kangani and the labourers in his gang give notice of their intention to quit the service of any employer, it shall be the duty of the employer, if the kangani is indebted to the estate in respect of moneys advanced to him on account of the labourers in his gang, to state on any memorandum or discharge ticket issued in respect of any such labourer the name of the kangani to whose gang the labourer belongs, and the amount to which the kangani is indebted to the estate as aforesaid.
- (6) Any employer who fails to prepare or to forward a discharge ticket, or to give to any labourer a memorandum in any case where he is required by this section to do so, shall be guilty of an offence, and shall be liable on conviction thereof to a fine which may extend to one hundred rupees, and a further fine not exceeding five rupees for every day during which such default shall continue.

Issue of certificates
from Ragama.

25. (1) The Superintendent of the cooly depôt at Ragama, or such other officer as may be authorized by the Governor for the purpose, shall prepare certificates in the form V. in schedule C with regard to all labourers and their children despatched from the depôt and shall forward the same to the employers to whom the labourers are despatched.
- (2) Whenever the Superintendent of the cooly depôt at Ragama or such other officer as aforesaid has despatched any labourer to any estate and has forwarded with respect to such labourer the certificate mentioned in the preceding sub-section, such labourer shall be deemed to have entered into a contract of hire and service with the superintendent of such estate for the period of one month, renewable and determinable in manner provided by section 5 of this Ordinance.
- (3) In the event of any other depôt being established for the reception of Indian immigrant labourers, the Governor may authorize the officer in charge of such depôt to issue certificates for the purpose of this Ordinance; and such certificates shall, for the purposes of this Ordinance, be equivalent to certificates issued from the depôt at Ragama.

Certificates
issued by
Police
Magistrates.

26. (1) On the application of any labourer a n y Police Magistrate, if he is satisfied by affidavit that such labourer has not been employed on an estate in Ceylon for the thirty-six months immediately preceding the date of application, or that he has quitted the service of his employer on reasonable cause, shall issue to the intending employer of such labourer a certificate to such effect in the form VI. in schedule C.
- (2) No stamp duty shall be chargeable on affidavits sworn or affirmed for the purposes of this section.

27. (1) Any Police Magistrate, if he is satisfied that any discharge ticket has been lost or destroyed, may, on the application of the labourer to whom the discharge ticket refers or of his employer, order or authorize the employer by whom such discharge ticket was given, or, if such employer is no longer in charge of the estate on which the labourer was employed, then the person for the time being in charge of such estate, on payment to him by the applicant of a fee of fifty cents for each discharge ticket, to prepare and forward to the new employer a duplicate of the lost or destroyed discharge ticket.

Power of Police Magistrate to order issue of new discharge tickets.

(2) Any person failing to prepare and forward a duplicate discharge ticket on the order of a Police Magistrate when the prescribed fee has been tendered to him, or issuing a duplicate discharge ticket without the authority of such order, shall be guilty of an offence, and shall be liable on conviction thereof to a fine not exceeding one hundred rupees.

28. Any person who—

(a) Knowingly prepares or issues a discharge ticket which is false in any material particular; or

(b) Fraudulently makes use of a genuine discharge ticket; or

(c) Knowingly makes any false entry alteration in or addition to the register required to be kept by this Ordinance; or

(d) Not being an employer as defined in section 3 of this Ordinance issues a discharge ticket in respect of any labourer—

Offences in relation to discharge tickets and registers of labourers.

shall be guilty of an offence, and shall be liable on conviction thereof to a fine which may extend to one thousand rupees, or to imprisonment of either description for a term not exceeding six months, or to both.

29. The Governor in executive Council may from time to time make such alterations as he may deem requisite in any of the forms prescribed in schedule C hereto, or may prescribe new forms to be used in substitution for any of such forms.

Power of Governor to alter forms.

30. No criminal proceedings shall be instituted in respect of any alleged offence under sections 21, 22, 24 and 28 without the previous sanction in writing of the Colonial Secretary.

Sanction to the institution of criminal proceedings.

6. Schedule C to this Ordinance shall be appended as schedule C to Ordinance No. 13 of 1889.

Addition of schedule to Ordinance No. 13 of 1889.

SCHEDULE C.

Form I. (Section 21.)

DECLARATION.

——— Estate in the District of ———

I hereby declare, in terms of section 21 of Ordinance No. 13 of 1889, as amended by "The Indian Coolies' Ordinance, 1909," that the wages of the labourers employed on the above-named estate for the month ending the ——— day of ———, 19—, have been duly paid in accordance with the requirements of the said Ordinance.

(Signed).....

Dated the ——— day of ———, 19—.

Superintendent.

Form II

(Section 22.)

Register of Labourers.

Number : _____.
 Name : _____.
 Approximate age : _____.
 Sex : _____.
 Race and caste : _____.
 Village : _____.
 Taluk : _____.
 District : _____.
 Father's name : _____.
 Mother's name : _____.
 Height, viz., tall, short or medium : _____.
 Colour, viz., dark, light, or medium : _____.
 Distinguishing marks (if any) : _____.
 General appearance : _____.
 Kangani's name : _____.
 Date of engagement : _____.
 Estate where last employed : _____.
 Unliquidated liability, if any, to other estates : _____.
 Whether employed permanently, or on contract work, or both : _____.
 Number of Ragama certificate (if any) : _____.

Form III.

(Section 24.)

Discharge Ticket.

In pursuance of section 24 of Ordinance No. 13 of 1889, as amended by "The Indian Coolies' Ordinance, 1909," this is to certify that the labourer whose name and description are appended has been duly discharged from my service.

(1) This labourer—

- (a) Was one of the coolies on my original register.*
- (b) Came to me with a certificate from the Cooly Dépôt.*
- (c) Came to me on Discharge Ticket from _____ Estate in the _____ District.*
- (d) Came to me on notice from _____ Estate in the _____ District with unliquidated liability amounting to Rs. _____*
- (e) Came to me with a certificate from the Police Magistrate at _____*.

(2) The reason for his discharge is _____.

Description of Labourer.

Number on Estate Register : _____.
 Name : _____.
 Approximate age : _____.
 Sex : _____.
 Race and caste : _____.
 Village : _____.
 Taluk : _____.
 District : _____.
 Father's name : _____.
 Mother's name : _____.
 Name of kangani : _____.

Height, *viz.*, tall, short or medium : ——— .
 Colour, *viz.*, dark, light, or medium : ——— .
 Distinguishing marks (if any) : ——— .
 General appearance : ——— .
 Date of engagement : ——— .
 Estate where last employed : ——— .
 Unliquidated liability, if any, to other estates : ——— .
 Whether employed permanently, or on contract work, or both : ——— .
 Number of Ragama certificate (if any) : ——— .

.....,
Superintendent.

——— *Estate* ———, *District.*

Dated ———, 19—.

Form IV.

(Section 24 (3)).

Memorandum with regard to Labourer leaving on Notice.

——— *Estate*, ——— *District.*

Memorandum that the labourer whose name and description are appended hereto left this estate on the ——— day of ———, 19—, and that a formal Discharge Ticket will be issued to his employer on application. The amount of his [*or her*] unliquidated liability is Rs. ———.

Date : ———, 19—.

(Signed)..... ,

Superintendent.

Name and Description of Labourer.

Name : ———.

Father's name : ———.

Sex : ———.

General appearance : ———.

Note.—In the case of a gang of labourers leaving on notice add the following particulars :—

(1) Name of kangani of gang : ———.

(2) Amount of collective unliquidated liability of gang : ———.

Form V.

(Section 25.)

No. of Certificate.

Ragama Certificate.

I hereby certify that the labourer whose name and description are appended was despatched from the Depôt at Ragama to ——— Estate on the ——— day of ———, 19—.

Name and Description of Labourer.

Number on Estate Register : ———.

Name : ———.

Approximate age : ———.

Sex : ———.

Race and caste : ———.

Village : ———.

Taluk : ———.

District : ———.

Father's name : ———.

Mother's name : ———.

Name of kangani : ———.

Height, *viz.*, tall, short, or medium :———. .
 Colour, *viz.*, dark, light, or medium :———. .
 Distinguishing marks (if any) :———. .
 General appearance :———. .
 Date of engagement :———. .
 Estate where last employed :———. .
 Unliquidated liability, if any, to other estates :———. .
 Whether employed permanently, or on contract work, or both :———. .
 Number of Ragama certificate (if any) :———. .

(Signed)———,

Dated———, 19—.

Superintendent.

Form VI.

(Section 26.)

Certificate of Police Magistrate.

Police Court of ——.

I hereby certify, in terms of section 26 of Ordinance No. 13 of 1889, as amended by "The Indian Coolies' Ordinance, 1909," that I am satisfied that the labourer whose name and description are appended has not been employed on any estate in Ceylon during the thirty-six months immediately preceding the date of this certificate (* or has left———estate on reasonable grounds).

Number on Estate Register :———. .
 Name of labourer :———. .
 Approximate age :———. .
 Sex : —— .
 Race and caste :———. .
 Village :———. .
 Taluk :———. .
 District :———. .
 Father's name :———. .
 Mother's name :———. .
 Name of kangani :———. .
 Height, *viz.*, tall, short, or medium :———. .
 Colour, *viz.*, dark, light, or medium :———. .
 Distinguishing marks (if any) :———. .
 General appearance :———. .
 Date of engagement :———. .
 Estate where last employed :———. .
 Unliquidated liability, if any, to other estates :———. .
 Whether employed permanently, or on contract work, or both :———. .
 Number of Ragama certificate (if any) :———. .

(Signed)———,

Dated———, 19—.

Police Magistrate.

Passed in Council the Seventh day of April, One thousand Nine hundred and Nine.

A. G. CLAYTON,
Clerk to the Council.

Assented to by His Excellency the Governor the Eighteenth day of May, One thousand Nine hundred and Nine.

HUGH CLIFFORD,
Colonial Secretary.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

VOL. IV.]

AUGUST, 1909.

[No. 7.

U. P. A. S. I.

(INCORPORATED).

The Annual Meeting, 1909.

The Annual Meeting will open this year on the 9th August at the Mayo Hall, Bangalore. A Committee Meeting will be held in the morning, and the General Meeting is likely to be opened about 3 P.M.

It is anticipated that a Planters' Dinner will be arranged before the Meeting closes.

It was hoped that one delegate, or more, from the Planters' Association of Ceylon would be able to accept the invitation issued by the U. P. A. S. I., but the Secretary to the former Association writes:—"I am to state, with much regret, the inability of any of our leading representatives to accept the invitation and to express the hope that this will only mean a temporary interruption in the exchange of visits between the two Planting Communities of South India and Ceylon so happily inaugurated by Mr. Geo. Romilly in March last."

The Proposed Coffee Cess.

Referring to the Memorial submitted by the Association to the Government of India praying for the imposition of a Cess on Coffee exported from India, the funds thus raised to be devoted to helping a popularization campaign that has been suggested on behalf of several producing countries, the Secretary to the Madras Government, Revenue Department, writes, in a letter dated 24th June, 1909:—"I am directed to inform you that the Government of India, having carefully considered the arguments set forth in the Memorial submitted by the Association, are of opinion that it has not been shown that the small amount which the levy of the proposed cess would produce is sufficient to affect the consumption of coffee appreciably. They do not consider that sufficient reasons have been adduced for legislation in the present instance and regret that they are unable to accede to the request contained in the Memorial."

The Legislative Council.

It is notified in the *Fort St. George Gazette* that Mr. J. G. Hamilton, the present Chairman of the U. P. A. S. I., has been appointed an additional member of the Legislative Council of Fort St. George.

Firing, Packing and Weighing Tea.

Probably the following extracts from notes by Messrs. Stenning, Inskipp & Co., produce brokers, of London, will be found useful for occasional reference:—

Firing.—As freshness of smell in the leaf and briskness in the liquors are so essential, we cannot too strongly urge that the greatest care should be given to this process both in the initial and final stages. The leafy kinds, as well as the broken, should be thoroughly *dried*, at the same time leaving strength and flavour unimpaired by anything like scorching,

Packages should be made of well seasoned wood, with strong triangular battens in the angles nailed to the package with nails of sufficient length to enable them to be clenched; this greatly strengthens the package, and will be a preventative against loss of tea in transit. A lining of *good stout tea lead* is necessary.

When a thin lining of lead is used, parchment paper should be added as a further protection; and all battens should be covered to prevent their direct contact with the tea. It is also recommended that small broken, fannings and dust be packed in half-chests.

N.B.—In the case of Dusts weighing over 110 lbs. nett and of Fannings over 120 lbs. nett, nothing is recoverable from the Shipbrokers for loss in weight in transit.

As freight is charged on the measurement and not on the weight, and buyers refuse all slack packs, except at a reduction in price, it is important to well fill all packages, the tea being closely filled in but not crushed.

Factory Bulk Teas.—In the case of Garden bulk teas, care should be taken that the empty packages of any break should not vary more than 2 lbs. in weight. If the variation is more than this all the packages are turned out for the purpose of taking actual tares. Great attention should be paid to the packing as (even after the most careful bulking) irregularity in the appearance of the leaf due to this having been unevenly done may necessitate rebulking in London.

Marks on Chests.—Nothing is wanted nor is of any service here beyond 1st, Garden Mark; 2nd, Description of Tea; 3rd, Garden Numbers. Gross, tare and nett, are not of the least use, and should be discontinued.

Weighing—Gross.—Under the present regulations, in taking the gross weight of packages exceeding 28 lbs., the Customs deduct all ounces over the even pound. Thus gross weights of 127 lbs. up to 127 lbs. 15 ozs. are taken as 127 lbs.

Tare.—In weighing the empty package for tare, fractions of less than half a pound are ignored, but a half pound or over is taken as a full pound, thus a tare of 28 lbs. 7 ozs. is taken as 28 lbs., one of 28 lbs. 8 ozs. or over as 29 lbs.

Nett.—The nett contents of the chest are never weighed, but are arrived at thus:—

	lbs. ozs.			lbs.	
An actual gross weight of	127	6	gives a Customs weight of	127	
" tare "	27	5	" " "	27	
Giving a nett off ...	100	1	or " " "	100	

The gross weight should in all cases amount to a few ounces over the even pound to guard against loss in transit. If the gross were weighed to the even pound in the factory and there were a loss on the voyage of only one ounce this would mean a loss of one pound in London. Thus a factory gross of 127 lbs., losing one ounce in transit, would give an actual weight in London of 126 lbs. 15 ozs. and be taken by the Customs as 126 lbs.

The tare (that is the weight of the empty package including lid, lead, nails and hoop iron) should weigh a few ounces below the half pound.

Draft of 1 lb. per package on all packages grossing 29 lbs. and upwards is allowed to the buyer.

Dock and Warehouse Management Rates, on packages, of which the average gross of each break is as under, are:—

160 to 199 lbs., £2-2.	80 to 79 lbs., £1-2.
130 to 159 lbs., £1-10.	43 to 59 lbs., 11s.
90 to 129 lbs., £1-6.	35 to 44 lbs., 10s.
80 to 89 lbs., £1-4.	17 to 34 lbs., 6s.

Soap for Insecticides.

The attention of Planters is called to an advertisement of the Bengal Soap Factory's Bar Soap on p. iii of the present issue. The "Imperial" Bar Soap is a brand specially manufactured for use as an enemy to the Mosquito Blight of Tea. It has been highly recommended by Mr. C. B. Antram, Entomologist to the Indian Tea Association, who published last year Notes on the preparations—Kerosine Emulsion, Primrose Soap Solution, etc., used in Tea gardens and, as the result of experiments, appears to be satisfied as to the superiority of the "Imperial" Soap Solution.

In the course of remarks on "The 'Mosquito Blight' of Tea: *Helopeltis Theivora*, Waterhouse: Investigations during the cold weather season of 1907-08," Mr. Antram wrote:—

"After long experiment, I have been successful in finding a solution which is equally as deadly in its action on the insect as Kerosine Emulsion, and at the same time can be applied at twice the rate per acre at one-quarter the cost of the latter. In January last 'Primrose' Soap 1 lb. and water 20 gallons was recommended as the composition of Soap Solution for Mosquito Blight; but since that date the 'Imperial' brand has been discovered to be in every way as effective as 'Primrose,' but at the same time nearly half the price. Primrose Soap costs As. 3½ per lb., while 'Imperial' is only As. 2 per lb. The 'Imperial' Soap Solution is made as follows:—Dissolve 1 lb. 'Imperial' Bar Soap in 1 or 2 gallons of water by boiling, and dilute to 20 gallons.

"The above strength of solution will generally be found correct; but if the water used is very hard, a little more soap will be required in 20 gallons of water for effect. It is advisable before using the solution to test its efficacy on a few insects that have been captured.

"'Imperial' Soap is an ordinary Yellow Bar Soap made by Messrs. The Bengal Soap Factory, in Calcutta: it has been selected not only on account of its superior insecticidal effect, but for its property of forming a clean solution which will not form sediment when left to stand, and therefore does not require to be kept stirred up, and which will readily pass through the fine vermored nozzle of the sprayer; other makes of soaps having a tendency to form gritty deposits which choke the nozzle.

"The simplicity of the solution makes it very much easier to prepare and use than Kerosine Emulsion, nor has the soap any tendency to burn the bushes.

"The solution should be applied at the rate of from 200 to 300 gallons per acre for each round of spraying, the cost of which application will be, for the larger quantity, a little over Rs. 2 per acre, as compared with Rs. 6 per acre required for applying 150 gallons of Kerosine Emulsion.

"The amount of solution required to saturate the bushes directly after pruning will depend upon the amount of foliage on the bushes at the time: for hard-pruned tea 150 gallons will be generally found sufficient. Light pruned tea will require certainly not less than 300 gallons per acre, and later on in the season when the bushes are full of foliage, four and even five hundred gallons of solution may be required per acre for the carrying out of complete saturation.

"It is obvious that the thoroughness with which saturation of the bush can be accomplished with the least amount of labour and material must depend largely upon the style of pruning carried out before the spraying takes place. Thorough cleaning out of the bushes is an essential preliminary to effective treatment of this blight, and should, indeed, invariably form part of the method of cold weather cultivation on gardens liable to 'Mosquito.' The amount of solution required to thoroughly saturate a well cleaned-out bush is less than one-quarter of the quantity necessary for use on one full of small shoots and with its base choked with accumulation of refuse.

"As has been referred to earlier in these pages, experiments have shown that the supposition that Kerosine Emulsion is able to destroy the eggs is no longer tenable. Unfortunately the same applies to Soap Solution, therefore it makes it necessary to include at least two rounds of spraying so that those insects present in the egg stage during the first round may be destroyed as larvae by the second; the cheapness of Soap Solution making two or more applications possible.

"If, later on in the season, when the bushes are fuller of foliage, insects are beginning to appear and fresh punctures are seen in the flushing shoots, spraying should be carried out immediately, and the quicker the round of the affect area is completed, the better will be the results.

"Spraying, however, must be accompanied by complete saturation of the whole bush; in other words, operations must ensure that the spray searches out every part of the bush, which should receive a cloud of spray from several opposite directions in order that the fluid may reach both sides of the leaves and all round every branch and twig. The nozzle of the sprayer must be held fairly close to the part sprayed upon, and must be placed well inside the bush in different positions.

"The soil and weeds below the bush should also be thoroughly wetted, as many insects especially in the larvae stage fall to the ground when the bush is disturbed.

"It cannot be too strongly impressed upon those who intend using Kerosine Emulsion, Soap Solution, etc., that their work must be done thoroughly. Careless spraying and unintelligence in application by which parts of a bush are missed altogether, is largely a waste of labour, because those portions of the bush which escape the liquid will contain mosquito insects which in time will re-infect the rest of the bush and other bushes in the vicinity.

"It is quite impossible to prevent insects from visiting a treated area from outside. In the case of the Tea Mosquito this generally happens, as the adult is always slowly moving about, seeking fresh food and sites for the deposition of eggs. Winds also are greatly responsible for carrying insects from one place to another, thus a treated area may become again badly attacked and the special treatment of insecticide used on that area consequently condemned. Some of the advantages of using Imperial Soap Solution are :—

That it is the cheapest insecticide yet discovered for Mosquito Blight.
That it is exceedingly easy and simple to prepare.

That the solution need not be kept stirred up while using it, as no sediment forms.

That it does not wear out the spraying machines.

That it has no effect on the young foliage of plants.

That plucking of leaf can be carried out 2 or 3 hours after application, or, *i.e.*, as soon as the solution has dried on the bushes.

That, when applied during a drought, it makes the bushes flush exceedingly well."

In December, 1908, the Manager, Rampore Tea Estate, Cachar, in "Notes on Mosquito Blight," reported :—

"The measures adopted have been continual catching, spraying with Chiswick compound, Kerosine Emulsion, Blower's Solution, and during the present season, 1908, Country Soap Solution as suggested by Mr. Antram, Entomologist to the Indian Tea Association,..... Throughout the months of May, June, July and August, wherever Blight appeared it was sprayed with Soap Solution with good results. During September, Blight began to show up in places where it had appeared before and had been treated with Soap Solution. The Blight during September and October was of a very malignant type, so much so that although only in small patches it completely de-

stroyed all signs of leaf. Spraying was continued, but it was found necessary to use 50% more soap in the mixture. Wherever it was possible to give the bushes a downright thorough saturation followed by another washing after a space of 7 or 8 days the leaf came through.'

"In conclusion, the Soap Solution was found to give as good results as other insecticides formerly used—with the advantage of being less expensive. After a somewhat lengthy battle with Mosquito Blight, the conclusion arrived at has been that it is quite impossible to eradicate, but that by continually worrying it the same can be kept in check, only appearing to do very serious damage when assisted by favourable conditions."

Inoculation of Leguminous Crops in the West Indies.

The Scientific Officer has asked that the following extract from the *Agricultural News* (Barbados) be re-printed here:—

"During the year 1908, the effect of inoculating the soil, or in some cases the seed to be sown, with prepared cultures of nitrogen-gathering bacteria was tried at Antigua and Grenada, with the object of ascertaining whether such a procedure would stimulate the growth, and increase the crop returns of various leguminous crops. At Antigua, where cowpeas, woolly pyrol, and alfalfa were the crops under experiment at the instance of Messrs. Henckell, Du Buisson & Co., Professor W. B. Bottomley's 'Nitro-bacterine' was the inoculating material used, but at Grenada, a culture preparation sent out from the United States Department of Agriculture was employed. It may be added that experiments in which a small number of sugar-cane plants were inoculated with a special culture prepared by Professor Bottomley in the hope that it might be beneficial in increasing the yield, were also carried out at Antigua and Barbados

"At Antigua inoculation experiments were conducted at the Experiment Station, and also at Fitches' Creek, Gambles, and Cassada Garden.

"Seed of the different crops shown was inoculated at the Laboratory, and part of the culture solution was used in inoculating the soil, and later on the growing crops. Where crop and soil inoculation was carried on, two applications of the solution were made, at an interval of a fortnight.

"No effect of inoculation could be traced in the case of the cowpeas grown. Practically no differences were observable between the treated and the untreated plots. It is therefore to be presumed that the soils in the experiment plots were well stocked with bacteria responsible for nodule formation on this crop, or that they were well supplied with available nitrogen.

With woolly pyrol the results of inoculation were, in the case of one estate, more definite and satisfactory. The experiment plots were each $\frac{1}{4}$ -acre in area, and from the plot sown with seed that had not been inoculated 330 lbs. of green bush was gathered. A second plot also sown with uninoculated seed, but which was 'Watered' with the culture fluid, yielded 700 lbs. of green bush; a third plot that had been sown with inoculated seed gave 970 lbs. of bush, while from the fourth plot, sown with inoculated seed, 1,015 lbs. of bush was reaped. It will be seen that in the cases indicated, inoculation seems to be distinctly beneficial for woolly pyrol. At two of the stations, however, all the plants on the experiment plots were destroyed by caterpillars. No report has yet been received on the trial with alfalfa.

"The Grenada experiments were designed to ascertain (1) whether any benefit is to be derived from inoculation of leguminous crops on Grenada soils, and (2) whether, by inoculation, leguminous green dressings, such as cowpeas, can be grown under the shade produced by full-grown cacao. The trials were made at the Experiment Station, and on six different estates in the island, where the crop under treatment was cowpeas, which were inoculated with a material prepared especially for this plant.

"At the Botanic Station and two of the estates, the results obtained showed no difference whatever in favour of inoculation. At two other estates, the

returns from the inoculated plots were slightly superior to those which had not been treated. Finally, on the two remaining estates—Dougaldston and Diamond—it is reported that the inoculated plots gave yields very considerably higher than the untreated plots, although no actual figures are stated.

"Inoculation, however, had no effect in influencing the growth of cowpeas planted beneath the shade of cacao trees, and these failed completely in all cases. The results of the experiments, therefore, give a negative reply to the second question suggested above.

"It may be added that the inoculation of sugar-cane plants with Professor Bottomley's culture preparation could not be observed to have any effect whatever, either at Antigua or Barbados."

The above elicited from the paper in which it was originally published the following editorial comment:—

SOIL INOCULATION.

"Agricultural literature has of late years included numbers of papers and reports on the subject of 'soil inoculation.' This term is applied to the various attempts that have been made to increase the crop-yielding power of soils by the introduction of bacteria which are known to be the cause of the nodules frequently observed on the roots of leguminous plants, and which are capable of assimilating free nitrogen from the atmosphere, that can be utilized as food by the plants in whose roots the bacteria live.

"Practical agriculturists have for generations past been well aware of the fact that the growth of a leguminous crop such as peas, beans, alfalfa, etc., results in an increase in the crop-yielding capacity of the land cultivated, although it is only within comparatively recent years that a satisfactory explanation of the matter was brought forward. One of the early observers in respect to this subject was a Frenchman, Boussingault, who, as the result of weighing and analysing the crops grown on his own farm throughout six separate courses of rotation, was able to state definitely that from one-third to one-half more nitrogen was removed in the produce than was supplied in the manure. He observed, too, that the gain of nitrogen was particularly large when clover or other crops of the same family were grown.

"Investigation work in relation to the manner in which leguminous plants obtained the supply of nitrogen was undertaken by a number of experimenters, but the credit of carrying out the researches which ultimately cleared up the whole matter belongs to two German Scientists, Messrs. Hellriegel and Wilfarth, who published their results in 1886. These results demonstrated conclusively, that leguminous plants were capable, under certain conditions, of obtaining and utilizing nitrogen from the atmosphere. It was further shown that this nitrogen assimilation was dependent upon the production of nodules on the roots of the plants. In later research work it was found that the root nodules were full of bacteria, which were the evident agents by which the free nitrogen was appropriated, and to these the name *Pseudomonas radicumicola* was given. Other observers have since confirmed the results obtained by Messrs. Hellriegel and Wilfarth. Although these have been fully established, it may be added that the exact details of the whole process by which the nitrogen of the atmosphere is first assimilated by the bacteria and afterwards taken over and utilized by the plant are not yet clearly understood.

"The importance of the whole question is indicated by the large quantities of nitrogen which a leguminous crop is frequently enabled to withdraw from the air, even in the course of a single season, through the agency of the bacteria obtained in the nodules on its roots. As examples, it may be mentioned that in experiments carried out at the New Jersey Experiment Station, a crop of crimson clover was found to have added over 200 lbs. of nitrogen per acre to the land in one year, while trials with velvet beans have

shown nitrogen gains amounting to 213 lbs. per acre in Alabama, 172 lbs. in Louisiana, and 141 lbs. in Florida.

"In the light of the knowledge thus accumulated on the subject, the question naturally suggested itself to investigators as to whether the co-operation of leguminous crops and nitrogen-gathering bacteria might not be more extensively utilized in enriching the soil and increasing its crop-yielding capacity. With this object, therefore, a number of preparations for inoculating the soil, all containing the bacteria *Pseudomonas radicola*, have, at different times; been placed on the market, and a good deal of experimental work has been carried out in the United States, Germany, Canada, and in England. The value of inoculation under certain circumstances has undoubtedly been indicated, but, speaking generally, the results have so far—for different reasons—been distinctly less promising than was at one time anticipated.

"So long ago as 1887, some inoculation trials were undertaken in Germany. In this case, the land under experiment—reclaimed moorland—was dressed with soil from a field which had previously borne flourishing legume crops. The results were successful, and eminently encouraging, and the example thus set was speedily followed in many districts. In view of the expense of carting soil over long distances, and of the danger of introducing weeds or plant diseases, this method was, however, soon substituted by the introduction of pure cultures of the nitrogen-gathering bacteria, put up in a convenient form for inoculating either a quantity of soil, or of the seed about to be sown.

"The first preparation of the kind introduced on a commercial scale was placed on the market about 1895 by a German experimenter, Nobbe. It was known as 'Nitragin,' and consisted of pure cultivations of the *Pseudomonas* organism on a gelatine medium. 'Nitragin' was extensively tested both in Europe and America, but the results, on the whole, were not at all satisfactory. This failure was generally believed to be due to the unsuitable nature of the medium (gelatine) on which the bacteria were grown, and when this was changed a greater degree of success was attained. Another Scientist (Hiltner) brought forward a method of cultivating the bacteria on agar jelly, while Moore introduced the still greater change of sending out the bacteria contained in cotton wool, which had been soaked in liquid cultures and afterwards dried. This preparation is added to a large bulk of water, with which the seed to be inoculated is treated before sowing. Moore's preparation was used in a very extensive series of experiments carried out by the United States Department of Agriculture in 1904. The results were very conflicting, but, on the whole, were unfavourable, although slight increases of crop were noticeable in many cases as the result of inoculation. Probably many of the failures noticed were due to lack of skill in preparing, handling, and employing the cultures. Culture preparations are still sent out by the United States Department of Agriculture, but they are now put up in liquid form, enclosed in hermetically sealed bottles.

"In 1907, Professor Bottomley, of London, brought forward a new preparation of nitrogen-fixing bacteria for inoculation purposes, to which the name of 'Nitrobacterine' was given. This was tried in numbers of experiments, but its introduction into the soil appeared to have little influence on the yields of the various leguminous crops treated. Sample cultures were obtained by this Department and by one or two estate owners for trials with various crops in the West Indies (including sugar-cane, since Professor Bottomley devised special preparations, which he hoped would be useful not only with legumes, but with plants of other orders as well). The experiments made are reported upon on page 151 of this issue. It will be seen that while inoculation had no influence on the returns obtained with cowpeas at Antigua, the crop-yields of woolly pyrol showed, in the case of one estate at least, considerable increase as the result of treatment. The results at Grenada also show one or two points of interest. Inoculation of sugar-cane at Antigua and Barbados had no effect whatever.

"There are undoubtedly certain conditions under which inoculation of the soil with nitrogen-fixing bacteria may prove to be of very considerable value, but on the majority of cultivated lands, which have already borne leguminous crops, inoculation is likely to prove beneficial only if the bacteria introduced belong to a more vigorous race of nitrogen-gatherers than those normally present in the soil, or are specifically adapted to the peculiar crop to be grown. In this connection it may be mentioned that it has not yet been fully decided whether nitrogen-fixation is carried on by more than one species of soil bacteria, or whether the bacteria which are associated with the various leguminous crops all belong to the species *Pseudomonas radicola*. Points of similarity and slight points of difference are observed in organisms from different plants, and it would appear that if all are of the same species, there are a number of varieties of this species in existence. Evidence has been brought forward in support of the belief, held by many investigators, that the bacteria, when grown continuously in association with one kind of leguminous crop only, become in time so modified as to be capable of giving the best results with that crop alone. At any rate, a greater degree of success has in many cases been obtained when each species of legume is directly infected with bacteria from nodules taken from other plants of the same species.

"The most notable instances of success in soil inoculation that have so far been recorded have naturally been obtained on lands which have not previously borne a leguminous crop, more especially on virgin soil newly broken up, or on heath or bog and lately reclaimed. The presence of suitable quantities of lime and mineral manures are necessary for success, and must be provided, if normally deficient in the soil. In East Prussia very large areas of barren sandy heath land have been reclaimed and made valuable for agricultural purposes by working on this principle. Dressings of basic slag and kainit were applied to the soil, and after preliminary inoculation, crops of lupins have been repeatedly grown, and ploughed in. As a result, the nitrogen content of the first 8 inches of land has been raised from 0.027 to 0.177 per cent., in the course of twenty-five years, while it has also become proportionately richer in the mineral constituents of fertility."

SCIENTIFIC OFFICER'S PAPERS.

II.—A Short Tour In the Anamalais.

The first tour in Southern India was made to the Anamalais from June 6th to the 20th, in the hope that the monsoon would be avoided, a hope which proved to be vain, though the vagaries of the present monsoon afforded several fine days.

The district is, comparatively speaking, a young one, much of the cultivation, especially Rubber and Tea, being quite young. The chief crops are Tea, Coffee, Cardamoms and Rubber. The last consists mostly of Hevea and Ceará, with some Funtumia (Kicksia), Ficus elastica and Castilloa, and the new varieties of Manihot in small quantities. The young Hevea has made excellent growth and may be considered generally satisfactory, while a few initial tapping experiments which have been made are fairly satisfactory. Castilloa appears to be unsuited to the district, and difficulty has been found in coagulating the latex; when, however, Hevea will do so well, it is waste of time and money to try to force Castilloa to grow.

Of Cardamoms little need be said; they are here in their natural habitat, the floor of the forest, and appear at present to be attacked by no pests of importance.

Much of the Tea is young, and so long as the young plants are well shaded when planted out in the field by placing pieces of bark round them there appears to be little difficulty in the cultivation. A disease of the bark which attacks young plants in the nursery was not insufficient evidence at the time of my visit to afford the chance of study.

The "poochies" which do the most damage appear to be Scale Insects and elephants; the former can be dealt with by systematic spraying, when probably an injection containing lead as its chief constituent is the best remedy for the latter.

Some root fungus is to be found among the young Rubber. A dead, or dying, tree when dug up reveals roots which are rotten and decaying. If taken in the early stages a good dressing of Ferrous Sulphate (Green Vitriol) worked into the soil above the roots may possibly have beneficial results and save individual trees, and arrangements were made to have this method tried. In all cases which were pointed out to me the affected plant was near the stump of the same species of forest tree. I was unable to name this tree from the charred stump and bark, but hope to receive specimens of the flower, fruit and leaves of the tree obtained from the jungle in order that it may be identified. That fact that fungi which begin by living on decayed roots of felled trees spread through the soil and attack the roots of living plants with which they come in contact is well known. In the West Indies whenever a Bread Fruit (*Artocarpus*) dies, or is killed, Cacao trees in the neighbourhood invariably die from the attack of root fungus, and other trees are known to produce the same effect. In some places in India Jack and *Grevillea* appear not to be above suspicion also. In this case it is not easy to devise a cure, but any bad attack can be prevented from spreading by isolating the diseased trees by means of trenches dug round them below the root level, and the free use of lime.

Death or sickness, of individual coffee trees, and in some cases of whole patches of them, after a heavy crop is of frequent occurrence. This is popularly attributed to "over bearing," which would seem to imply a lack of available plant food in the soil. In that case it would be reasonable to expect, however, that whole areas rather than isolated trees would suffer, and it is quite possible that this is also due to the attack of a root fungus which gets the upper hand when the vitality of the coffee is low owing to the drain upon its energy produced by the heavy crop. This point could not be definitely ascertained at the time of my visit, as the trees had either died or were recovering. It is significant, however, that such trees when dug up are found to have roots quite unlike those of a healthy tree, there being hardly any feeding roots at all present. There is a difference of opinion as to the best method of restoring trees thus attacked to a normal condition, and a series of pruning and manurial experiments on a small scale was arranged with a view to clearing up some of the points under discussion.

Of Scale Insects, *Lecanium viride* and *L. hemisphericum* appear to do the most damage to coffee. Evidence of the damage done was plentiful, but in coffee at any rate few scales were to be found. It is said that the heavy rains and low temperature obtaining during the monsoon destroy the Scales. This destruction is probably more apparent than real, as the Scales soon re-appear when the monsoon conditions cease to prevail, and it was easy to find Scales in a healthy and vigorous condition on sheltered plants, weeds, and jungle trees.

At present the Scales are confined to isolated areas, but I would strongly combat the idea that on this account their presence may be considered immaterial. The district has reached a period in its history when Scale Insects can be stamped out to a large extent. Their presence even in small numbers constitutes a permanent danger, and at any time conditions may prevail—conditions which it is hard to define, and which are perhaps not altogether understood—when everything is in favour of the Scales, and when they will spread with almost inconceivable rapidity. It is comparatively easy and economical to spray isolated trees, to destroy weeds and jungle plants which are found to be attacked by Scales in, or on the boundaries of, the estates, and by special attention to cultivation and manuring to aid infested trees to throw off the attack when it is slight and in its infancy. When once the Scales get the upper hand it is very difficult and very costly to control them. I would earnestly urge Planters, and all concerned, to vigorously attack the pest at this stage; money spent on it now will prove a good

investment. There is, I believe, an old proverb relating to the futility of locking a stable door after the horse has gone, and its application to the district is worthy of consideration.

One of the features of the district which impressed me was the way in which in young plantations of Rubber, though interplanted with Coffee, the soil was left exposed, rendering it liable to wash, and to the deleterious effect of sun and wind. This raises the question of clean weeding versus the intelligent use of weeds, and I am strongly of the opinion that the soil should be kept covered as much as possible with a mulch. In the case of Coffee growing under the shade of *Grevillea* the shade trees drop a large quantity of leaves which provide an excellent mulch, but when there are no shade trees, a living mulch would be found advantageous. The prevailing system of growing Dadap (*Erythrina indica*) among the Coffee and cutting it down when it reaches a height of ten or twelve feet and spreading the material thus obtained as a mulch is a good one in this connection, but what is really required is the establishment of a definite weed through the cultivation. For this purpose a leguminous plant is needed. *Crotalaria Striata*, which is useful for Rubber, grows too tall for coffee and smothers it, and a plant is needed which does not attain a height of more than eighteen inches or two feet. The establishment of such a crop through Coffee would not only save weeding, the expense of which is great, but also supply a mulch, and at the same time add to the nitrogen content of the soil through the medium of the root nodules.

This is a subject which I hope to have an early opportunity of bringing prominently before the notice of the Planting Community. The problem of finding a suitable plant is probably not a difficult one, and it implies a search of the local wild flora. I have hopes that a plant which was found growing in waste places in the district may prove to be suitable for the purpose, but it was not, at the time of my visit, in a sufficiently advanced stage of growth to allow the point to be fully determined. Material is to be sent to me later, and until that is received nothing definite can be said.

Several minor diseases of other crops were seen in various stages but do not call for special mention at this stage. At Valparai Estate it is proposed to establish a small experimental plot with the object of testing the efficiency of various manures for Coffee, and the preliminary details of this were discussed with the Manager.

My sincere thanks are due to Mr. Congreve, the Secretary of the local Planters' Association, and to the other Planters in the district for their hospitality and the kind assistance which they afforded me.

(Signed) RUDOLPH D. ANSTEAD,

Planting Expert.

THE NEXT LONDON RUBBER EXHIBITION.

Writing on the 2nd July, the London correspondent of the *Times of Ceylon* remarked:—Mr. Manders has his arrangements well in hand for the next Rubber Exhibition to be held in May 1911, and a number of those whose name appeared as Vice-Presidents of the Exhibitions last year are again giving their support. Mr. Manders writes to me that he has received most encouraging promises from the manufacturers of England and the Continent, and also from producers and shippers in various parts of the world. The President of the German Rubber Manufacturers' Association, and several leading manufacturers of Germany, have joined the Committee; and the Permanent Exhibition Committee in Berlin have endorsed the Exhibition as one in which German manufacturers may safely take part. Mr. H. C. Pearson, the Editor of the *India-Rubber World*, has promised his assistance, and Mr. Manders is sanguine that, with the kind co-operation and help of rubber planters, Manufacturers, and others interested, the Second International Exhibition will be an unqualified success. No doubt in 1911 the promoters will arrange for a better representation from British manufacturers than was the case in 1906, as this was generally considered the only weak spot in an otherwise most successful show.

DISTRICT PLANTERS' ASSOCIATIONS, Shevaroy Planters' Association.

*Proceedings of the Quarterly General Meeting held at the Victoria Rooms,
Yercaud, on Monday, 5th June, 1909.*

Present :—Messrs. C. G. LECHLER, S. CAMPBELL, C. RAHM, J. C. LARGE, S. M. HIGHT, TRAVERS-DRAPES, W. I. LECHLER, R. A. GILBY, F. D. SHORT, Rev. ROCHET-DANIEL, and CHAS. DICKINS (*Honorary Secretary and Chairman*).

1. The Proceedings of Committee Meeting of 10th May and Minutes of S. G. Meeting of 24th May, were taken as read and confirmed.

2. *Passing of Accounts*.—READ and passed Accounts from 1st March to end of June, showing a credit balance of Rs.326-9-0 to the credit of the Association, and Rs.85 to the credit of the S. O. Fund.

3. *Feeder Roads*.—READ letter No. 935, dated 28th May, 1909, from President, District Board, asking the Association to form a decision as to the order in which proposed Feeder Roads merit attention.

Resolved unanimously that the link between the head of the Salem Ghaut and the Vamiah Cart Road should first receive the attention of the District Board.

4. *Bamboo Passes*.—READ letter No. 350, dated 1st June, 1909, from Collector and District Magistrate stating that the price of Bamboo permits could not be reduced from 3 to 2 annas.—*Recorded*.

5. *Government Waste Land*.—READ and recorded No. 2231, Proceedings of the Collector and District Magistrate, *re* Government Waste Land.

6. *Liquor Shops*.—READ and recorded with satisfaction No. 1881D, dated 24th June, 1909, Proceedings of the Collector and District Magistrate, *re* closing of Arrack Shop at Puthoor Village.

7. *Sandal Wood*.—READ letter No. 1237, dated 1st June, 1909, from District Forest Officer, North Salem, relating to Transport Rules and owner's mark.

Resolved that the Honorary Secretary write to the Collector and District Magistrate protesting against clause No. 2 of the above Rules.

8. *Cart Brakes*.—READ and recorded letters dated 31st May, 1909, and 12th June, 1909, from Honorary Secretary, North Planters' Association, relating to Cart Brakes.

9. *Committee Member*.—READ letter dated 9th June, 1909, from Mr. B. Kidd, resigning the Association, owing to his departure from the District.

Resolved that Mr. B. Cayley be invited to serve on the Committee in the place of Mr. Kidd.

10. *Delegate to Bangalore*.—Proposed by Mr. Travers-Drapes, seconded by Mr. C. J. Large and carried unanimously, that Mr. G. Turner be invited to represent this Association at the coming U. P. A. S. I. Meeting.

11. *Planters' Labour Act*.—READ Circular No. 38/09, dated 26th May 1909, from Secretary, U. P. A. S. I., *re* Madras Planters' Labour Act.

Resolved that the Secretary, U. P. A. S. I., should adopt means to get the decision of the Sub-divisional Magistrate, Coonoor, revised.

12. *Scientific investigations*.—READ Circular No. 41/09 of 1st June, 1909 from Secretary, U. P. A. S. I., *re* Scientific investigations.

Resolved that the information gathered from the members be sent to the Secretary, U. P. A. S. I.

13. *Pulony Bug*.—READ letter dated 4th April, 1909, from Mr. C. K. Short, relating to a new remedy for destroying Pulony bug, viz., the juice of the common aloe, of *Fourcraea*.

Resolved that Mr. Short be thanked for his interesting letter and that he be informed that the experiment is being tried by some of the Members.

14. *Planters' Chronicle*.—READ Circular No. 14/09, dated 6th March, 1909, from Secretary, U. P. A. S. I., re desirability of Planters in general giving their assistance to strengthen the above publication. The Meeting expressed with thanks their appreciation of the work already done by the paper.

15. READ and recorded Circular No. 20/09, dated 21st March, 1909.
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| Do. | do. | letter of Secy., U.P.A.S.I., dated 23rd March, 1909. |
| Do. | do. | Circular No. 23/09, dated 5th April, 1909. |
| Do. | do. | do. No 24/09 do. do. 1909. |
| Do. | do. | do. No. 34/09 do. 10th May, 1909. |
| Do. | do. | do. No. 35/09 do. 18th May, 1909. |
| Do. | do. | do. No. 37/09 do. 20th May, 1909. |
| Do. | do. | do. No. 39/09 do. 28th May, 1909. |
| Do. | do. | do. No. 40/09 do. 29th May, 1909. |
| Do. | do. | do. No. 41/09 do. 1st June, 1909. |
| Do. | do. | do. No. 44/09 do. 29th June, 1909. |
| Do. | do. | letter from Secy., U.P.A.S.I. dated 30th June, 1909. |

With a vote of thanks to the Chair the Meeting terminated.

The following Books and Papers were laid on the Table:—

Pwé Nyet and Indian Dammars, by David Hooper, F. C. S.

Urena Lobata, by R. Abbey-Yates.

Dyes from Followers, by A. G. Perkin.

The Salem District Gazette.

Ceylon Coming Labour Ordinance.

Tea Circulars from Geo. White & Co.

Indian Tea Association, Calcutta.

Planters' Chronicle for May.

(Signed) CHAS. DICKINS,

Honorary Secretary and Chairman, S. P. A.

Kanan Devan Planters' Association.

*Minutes of Annual General Meeting held at the Munnar Club on the
19th June, 1909.*

Present:—Messrs. A. J. IMRAY, J. C. ABBOTT, A. J. WRIGHT, W. O. MILNE, W. J. DIXSON, W. L. RANKING, A. F. RUSSELL.

Mr. A. J. Imray was elected Temporary Chairman in the absence of the Chairman.

The Minutes of the last General Meeting were read and confirmed.

Election of Office-bearers:—

Elected—Mr. J. C. Abbott, *Chairman*.

„ J. M. Bridgman, *Honorary Secretary*

„ A. J. Wright.

„ A. F. Martin.

„ A. H. Gerrard.

„ A. J. Imray.

The Honorary Secretary read his Report on the past year's working:—

MR. CHAIRMAN AND GENTLEMEN,—As there is no subject of any great importance on the past year's working, my Report will be a brief one.

(1) *Theni Bridge*.—We have to record with satisfaction that the District Board have sanctioned an estimate of Rs.30,000 to construct a bridge across the Theni River to carry the ordinary road traffic, and we hope that this will be passed by the Government and that the work will be begun at no distant date. The District Board has allotted Rs.15,000 in the Budget for next year.

(2) *Bodi Mettu Ghat Road*.—The lower portion of this road is finished, and is, I am told, in excellent order, and arrangements are being made with Mr. Knight to cut the upper part of the road for which a trace has already been made, and the Association has agreed to contribute a sum not to exceed Rs.2,100. With regard to cutting of this portion of the road Mr. Knight has asked the Association, if he may be allowed to expend the next year's Upkeep Grant of Rs.750 in advance, and the Committee instructed me to write and say that this might be done, but that we could obviously not hand over the Grant until we got it. There is also further business in connection with the cutting of the new road which will come on the Agenda for to-day's business.

(3) *Tea Duty*.—We note with pleasure that the duty on Tea has not been increased, but we should perhaps have been more pleased had it been altogether abolished. Tea prices are still keeping up and we hope this will long continue.

(4) *Travancore Factory Regulation*.—A copy of which you have all probably seen, was carefully considered by your Committee, and it was resolved to strongly support the Central Travancore Planters' Association Resolution.

(5) *Grog Shops*.—As most of you are aware, have always given a considerable amount of trouble, and we record with great pleasure that the Government has decided to close the Arrack Taverns at Palaar and Devicolam shortly.

(6) The Accounts and other Papers are laid on the table.

The Report and Accounts were passed *unanimously*.

To-day's Agenda.

(1) Election of Chairman and Office-bearers.

(2) Mr. A. F. Martin was appointed Delegate for the U. P. A. S. I. Annual Meeting.

(3) *Bodi Mettu Ghat Road*.—Read letter from Mr. H. M. Knight, of June 9th, with reference to which the Honorary Secretary was instructed to write and inquire exactly what Mr. Knight's proposals are with regard to the spending of the Government Upkeep Grant for 3 years.

Proposed by Mr. A. J. Wright, seconded by Mr. W. O. Milne.

(4) *Estate Acreages*.—Mr. A. J. Wright proposed and Mr. A. J. Imray seconded: "That the Honorary Secretary be authorized to write to all Members of the Association for a certificate of the present acreages under cultivation, in view of alterations."—*Carried*.

(5) Mr. A. J. Wright proposed with reference to Circular of the 9th June from the Superintendent, Post Offices, Madura Division, that this Association deplores the action of the District Authorities in having declared certain roads (*vide* Circular) unsafe for night transmission of Mails, etc., and that the Collector of Madura be written to, asking if he is aware of its publication and inquiring what steps are being taken to remedy matters in view of the very serious delay entailed in the transmission of Mails, parcels, etc., to this District. This was seconded by Mr. W. L. Ranking and *carried unanimously*.

A vote of thanks to the Chairman terminated the Meeting.

(Signed) J. M. BRIDGMAN,

Honorary Secretary, K. D. P. A.

Nilgiri Planters' Association.

Proceedings of Annual General Meeting held on 21st June, 1909, at the Collector's Office, Ootacamund.

Present:—MESSRS. J. HARDING PASCOE (in the Chair), J. S. NICOLLS, E. G. WINDLE, E. F. BARBER, A. F. VANSAGNEW, A. W. BRODIE, W. RHODES JAMES, J. H. WAPSHARE, W. C. DEANE, T. M. ARUMUGAM PILLAI, P. M. SATHISIVA MOODELIAR and F. M. COCKBURN (*Acting Honorary Secretary*).

1. The Report and the Accounts for year 1908 were read and passed—the Report being read by the Acting Honorary Secretary as follows:—

REPORT.

GENTLEMEN,—I have the pleasure to lay before you the Report and Accounts as at 31st December last, which I trust you will find in order.

Our membership is as before—49 names in all, out of which one member, our late Honorary Secretary, has left the district, but without resigning membership.

The Accounts as I said are as at 31st December last, and show a cash balance credit of Rs.109-12-5 as against last year's balance of Rs.70-13-5.

The only liability we had at the end of the year was Rs.110-4-8, being balance of our subscription to the U. P. A. S. I.

Our assets amounted to Rs.219-12-5, being a balance of Rs.109-7-9 over our liabilities, but the assets to the extent of about one-half were subscriptions due by members.

The U. P. A. S. I. is, according to our Delegate's Report read here last September, recovering from the set-back its finances sustained by the failure of Messrs. Arbuthnot & Co., who paid a dividend before last Annual Meeting of Rs.908-12-0 and on the strength of this Rs.1,000 has been put into the Reserve Fund. We have started to pay our subscription on the new rate, *i.e.*, at 8 pies per acre cultivated. This new rate is also expected to bring in a very material increase in the revenues of the U. P. A. S. I. Our subscription at this rate is Rs.444-4-8.

Scientific Officer.—It is with much pleasure that we have heard of the arrival in India of Mr. R. T. Anstead. Perhaps I should add nothing here, as our Agenda include this matter.

Kil' Kolagiri Coffee-stealing Case.—Since the reward was voted, Mr. Deane asked me to pay Rs.20 to account and will write to us when the balance is required.

Planters' Labour Act.—I have to thank all members who replied to the circulars I sent from the U. P. A. S. I., as well as to those I sent on our own account. The principal matter in regard to which legislation is required at the earliest possible date is crimping—the law at present in this matter being better in theory than in practice.

Honorary Secretary—I should like in conclusion to place on record a very high appreciation of the work of our late Honorary Secretary, from whom I have been glad to take over charge on his departure. For my own part, may I thank all members for their unfailing courtesy, by which they have made by acting appointment a pleasure. If I have shown any error or delay in my work, it is on account of the distance I live from the principal centres of the district, and for this reason I ask for a relief, I have therefore to place my resignation in your hands, with those of the Committee.

2. *Election of Office-bearers.*—Mr. E. F. Barber kindly consented to become Honorary Secretary, and in addition to him the following members were elected to form the Committee:—Messrs. F. M. Cockburn, A. S. Crum, W. C. Deane, J. McKenzie, A. F. VansAgnew, J. Harding Pascoe, W. Rhodes James, J. H. Wapshare, E. G. Windle, J. S. Nicolls and H. P. Hodgson.

3. Mr. E. F. Barber was provisionally elected as delegate to the U. P. A. S. I. Meeting in Bangalore,

4. READ letter from the Chairman of the U. P. A. S. I., dated 4th June, 1909, with reference to additional contribution to U. P. A. S. I. funds. Resolved that the delegate to Bangalore be instructed to deal with the matter.

5. *Crimping*.—READ and recorded correspondence with Secretary, U. P. A. S. I.

Resolved unanimously to test the judgment in Mr. Brodie's case by an appeal to the High Court for revision.

READ and recorded judgment in a crimping case, by Mr. J. H. Wapshare against Philip Narasia.

READ and recorded correspondence with Mr. A. G. Nicholson, re brakes on carts using the Ghaut Roads.

The Meeting closed with votes of thanks to the retiring Honorary Secretary, to the Chairman, and to the Collector for the use of the room.

(Signed) F. M. COCKBURN,

Acting Honorary Secretary, N. P. A.

Anamalai Planters' Association.

Proceedings of a General Meeting held at the Castlecroft Bungalow, on 26th June, 1909.

Present :—MESSRS. C. H. BROCK, E. W. SIMCOCK, J. S. B. WALLACE, F. C. F. LUSHINGTON, R. F. LUSHINGTON, and C. R. T. CONGREVE (*Honorary Secretary*).

Mr. BROCK was voted to the Chair.

1. Proceedings of the last General Meeting held on April 23rd, 1909, were taken as read and confirmed.

2. *Medical Matters*.—After considerable discussion, the Honorary Secretary was requested to write to the President, Taluq Board, asking him that as this Association is prepared to subscribe towards a resident Medical Officer, the man appointed must be placed under the control of the Association, and should be instructed to visit all Estates belonging to the Association at regular intervals.

3. *Weeding rates*.—Mr. Simcock proposed, and Mr. Congreve seconded, that for all old cultivation a rate of ten annas per acre per weeding shall be the maximum to be paid, and that for young clearings the rate be left to the discretion of Managers of Estates.—*Carried unanimously.*

4. *Recruiting of Labour for Ceylon in Mysore*.—READ Mr. deSalis' letter, the Meeting is prepared to support any Resolution that may be brought forward by the Mysore Planters' Association in this connection.

5. *Delegate to U. P. A. S. I. Meeting*.—Proposed by Mr. Congreve, and seconded by Mr. Wallace, that Mr. Brock be asked to represent this Association at Bangalore, and that Rs.100 be voted towards his expenses.—*Carried unanimously.*

6. *U. P. A. S. I. Papers*.—Nilgiri Crimping Case Correspondence read. The Meeting approved the action of the Honorary Secretary in voting against the case being taken up for appeal.

7. *Labour*.—Proposed by Mr. Brock, and seconded by Mr. Congreve, that no attempt at a voluntary arrangement over our labour troubles is either desirable or possible, and that this Association draft a scheme for Government legislation and request our Delegate to U. P. A. S. I. Meeting to bring it forward at the Annual Meeting.—*Carried unanimously.*

Mr. Brock was appointed to make out a scheme in consultation with the Honorary Secretary.

8. Papers laid on table: U. P. A. S. I. Circulars for past 2 months.

With a vote of thanks to the Chair the Meeting terminated.

(Signed) C. R. T. CONGREVE, *Honorary Secretary.*

Coorg Planters' Association.

Minutes of the Annual General Meeting held at the Bamboo Club House, Pollibetta, S. Coorg, on Wednesday, June 30th, 1909.

Present :—Messrs. F. W. GERRARD, H. T. SHAW, E. CLARKE, G. C. GARRETT, P. G. TIPPING, A. B. CHENGAPPA, E. M. BREITHAUPT, E. L. MAHON, A. H. JACKSON, W. W. BADCOCK (representing Messrs PEIRCE, LESLIE & Co., LD.), JAMES HUME, A. J. WRIGHT, W. R. WRIGHT, F. MACRAE, W. F. BRACKEN, GUSTAVE HALLER, Assistant Director of Land Records and Agriculture, *Honorary Member*, W. EGERTON, *Visitor*, and R. D. TIPPING, *Honorary Secretary*.

Mr. R. D. Tipping was voted to the Chair.

The Annual Report was then read.

Annual Report, 1908-09.

GENTLEMEN,

You have all heard with deep regret of the death of our late Honorary Secretary, Mr. Lambert, whilst he was in England.

After he left for Home, Mr. G. K. Martin took the affairs of the Association in hand, but unfortunately he has left the District for a time, and about the end of April asked me, as a Member of Committee, to carry on until such time as the new Office-bearers were elected.

This being the case, I have found it somewhat difficult to make an interesting report on subjects with which I have hitherto had very little to do, so I propose to make my remarks as brief as possible.

The Accounts are laid on the table for your inspection, and show a credit balance of Rs.139-2-3 with no liabilities, and after paying Rs.100 arrears of subscription of the previous year to the U. P. A., and Rs 200 for the season under report. The balance still due by the late Commercial Bank in liquidation is Rs.59-5-1, this is not shown as an asset. The arrears of subscription amount to Rs.48 only, after striking off one or two names whose subscriptions were apparently irrecoverable.

Before turning to the subject of our finances for the future, I will give you a brief summary of what has been done with regard to

- (1) The Renard Road Train Service.
- (2) Scientific Officer's Scheme.
- (3) Encashment of Supply Bills at Sub-Treasuries.

The Renard Road Train.—As you know, Mr. James Chisholm has greatly interested himself in the subject of a Renard Service for Coorg, and a lengthy correspondence has been conducted by himself and Mr. Martin, with a view to having trials made in Coorg—the upshot of which was, that the Company declined to run any trials through our Province, much to the disappointment of Messrs. Chisholm and Martin, who had done all they possibly could, and to whom our hearty thanks are due for their efforts. Since then there has been a new development. The Madras and Southern Maharatta Railway Company deputed a special officer to enquire into the conditions of Traffic, and the roads, with a view to running trial service between Mysore and Tellicherry via Coorg.

I hoped to have been in possession of the Report on the subject, but so far it has not reached me.

It is here mentioned, that we can count upon the strong support of the Merchant Community of Tellicherry.

The Scientific Officer.—You have all doubtless read of the appointment of Mr. R. D. Anstead to this post; he arrived in Bangalore in May; he first goes, I understand, to the Coimbatore College of Agriculture and Research, after which he will proceed to the various Planting Districts to learn local wants and conditions, and to get in touch with Members of the community whose interests he hopes to advance.

Plans will be arranged at the Meeting of the U. P. A. for the next season's work. Associations are asked to send in, as soon as possible, a list of diseases and pests, with life history where possible.

The Encashment of Supply Bills at Sub-Treasuries.—Some of us have been able to avail ourselves of the facilities for getting money near at hand, and I learn that the experiment has proved a success, so far, both from a Government point of view, and that of the Planters. Our thanks are due to the Commissioner for carrying this scheme out.

Roads and Bridges.—On these, whole continue to be well kept up in the District, though several complaints have come to hand regarding the state of the Ammath-Tithmath Road, as well as the Pollibetta-Gonicople Local Fund Road. We learn with regret that the Executive Engineer, Mr. J. M. Parker is leaving Coorg at no distant date.

Messrs. A. H. Jackson and G. K. Martin have been duly elected Members of the Local Fund Board for South and North Coorg, respectively.

Prevention of Coffee-stealing Fund.—Mr. F. W. Gerrard again administered this Fund, the accounts for the season 1908-09 showing a credit balance of Rs.94-5-3. No rewards were paid during the term under report, and minor expenses amounted to Rs.10-2-6.

Pepper.—The fund for prevention of stealing Pepper was in the hands of Mr. Bracken—Rs.250 was collected, the accounts for the same which are laid on the table—showing expenses amounting to Rs.43-5-0, and balance cash in hand Rs.206-11-0.

Both Mr. Gerrard and Mr. Bracken consented to continue their offices, and were accorded a hearty vote of thanks.

The ballot for office-bearers having been taken with the following results :—

President :—C. E. Murray-Aynsley.

Honorary Secretary :—R. D. Tipping.

Committee :—

N. COORG.
Messrs. Graham.
" Ball.
" Maclean.
" Irwin.
" Pearse.
" Mann.

S. COORG.
Messrs. Macrae.
" A. M. Jackson.
" F. W. Gerrard.
" Breithaupt.
" Mahon.
" Garrett.

The question of finances was next gone into and after some discussion it was resolved that this Association offer the usual subscription of Rs.200 to the U. P. A Funds, and that in addition to the above a subscription of Rs.300, subject to alteration, be offered towards the Scientific Officer's Fund.

Proposed by Mr. Breithaupt, and seconded by Mr. Macrae: "That a cess of 6 pies per acre, on lands cultivated under Coffee, be levied to meet expenses of the Scientific Officer's Scheme."

The subscriptions, as at present, being paid by Members in the usual way.

It was resolved that Mr. Murray-Aynsley be asked to attend the U. P. A. Meeting in Bangalore as a delegate.

Proposed by Mr. Breithaupt, and seconded by Mr. P. G. Tipping: "That the Honorary Secretary also represent this Association."—*Carried.*

Mr. Badcock read some interesting notes on the Renard Road Trains.

Mr. Gustave Haller gave some figures which he had collected in connection with the Orange trade, he also consented to circulate copies of these notes, amongst those interested, and was accorded a vote of thanks.

Mr. Breithaupt raised the question of the grading of the Pollibetta Post Office, and pointed out, that in such an important centre, where there was a

large European community, the hours for the despatch of ordinary Telegrams might be extended with advantage.

A hearty vote of thanks to Mr. G. K. Martin, late Honorary Secretary, was accorded.

The Proceedings closed with the usual vote to the Chair.

(Signed) R. D. TIPPING,

Honorary Secretary.

Wynaad Planters' Association.

Proceedings of a General Meeting held at the Meppadi Club, 17th July, 1909.

Present.—MESSRS. ATZENWILLER, BEHR, EWART, MACKINLAY, McLEOD, POWELL, JR., TROLLOPE, WINTERBOTHAM, and MALCOLM (*Honorary Secretary*).

Visitor.—MR. C. B. HALL.

1. *Proceedings of last Meeting*.—Taken as read.

1482. *Attesting Labour Contracts*.—READ Government Orders appointing Messrs. W. S. Parry and D. McLeod to be Magistrates for the purpose of attesting Labour Contracts under Act I of 1903.

1483. *Rinderpest*.—READ Proceedings of the Collector of Malabar, dated 18th June, 1909.

READ letter from Deputy Tahsildar of Wynaad, dated 30th June, 1909, advising the Association of the arrival of Mr. Sangameswara Sastri, Veterinary Assistant at Vayitri. Honorary Secretary stated he had informed Members and requested them to let the Deputy Tahsildar know if they wanted their cattle inoculated.—*Recorded*.

The Honorary Secretary was requested to enquire if the supply of vaccine was adequate, and if not to request the Deputy Tahsildar to arrange for a further supply.

1485. *Labour Law*.—READ letter from Mr. Behr stating that, with reference to C.C. No. 447 of 1907, the 2nd-class Magistrate had dismissed his application for the arrest of a maistry under section 35 of Act I, on the plea that there had been undue delay in making the application.

Resolved.—That the Association address the District Magistrate on the matter enquiring whether the 2nd-class Magistrate's action was correct.

1486. *Pepper Stealing*.—READ Proceedings of District Magistrate of Malabar, ordering the transfer of Mr. Malcom's Pepper Stealing case to the file of the Sub-divisional 1st-class Magistrate for disposal.—*Recorded with satisfaction*.

1487. *Roads*.—READ letter of June 9th, from District Board Engineer, *re* Road 31 and Honorary Secretary's reply.—*Recorded*.

Road 38.—READ letter of June 26th, from District Board Engineer and reply. Also letter of July 10th, 1909, from District Board Engineer and reply.

The Honorary Secretary was instructed to point out that, as stated in his letter of July 2nd, the complaints made had not been meant to apply to the road as a whole, the road being at the time the complaints were made in good order with the exception of the portions complained of in miles 20 and 21. Some of these portions have been repaired, and the work of repairs on the road is now being continued which the Association notes with satisfaction.

1489. *Taluk Board Member*.—Mr. H. B. Winterbotham consented to act as a Member on the Board.

1490. *Tea Freights*.—READ letter from Messrs. Parry & Co. The Honorary Secretary was instructed to point out that there had so far been no great difficulty in shipping tea from West Coast ports.

Further instructed to enquire of the Railway authorities concerned whether a reduction in rates could be made between Calicut and Cochin.

1491. *Medical*.—READ letter from Dr. Nair and reply.—*Recorded*.

1493. *United Planters' Association of S. India*.—READ Circulars 45/09, 47/09, 48/09 and 46/09.—*Recorded*.

1494. *Election of Delegate*.—Mr. B. Malcolm was elected to represent the Association at the next Meeting of the U. P. A. S. I. in August.

1495. *Scientific Officers*.—The Honorary Secretary was instructed to endeavour to get further subscriptions towards this fund.

READ correspondence with the Secretary, U. P. A. S. I.—*Recorded*.

1496. *Labour Committee's Report*.—READ and approved.

1497. *U. P. A. S. I. Agenda*.—READ and considered. Honorary Secretary instructed to endeavour to get the U. P. A. S. I. to press for improvement in the matter of arrangements *re* liquor shop licenses and service of warrants.

Papers on the Table.—1. T. A. Circulars.

"The Planters' Chronicle."

A vote of thanks to the Chair terminated the Proceedings.

(Signed) H. B. WINTERBOTHAM,
Chairman.

(Signed) B. MALCOLM,
Honorary Secretary.

Central Travancore Planters' Association.

*Proceedings of the Quarterly General Meeting held at Arnakal on the
17th July, 1909.*

Present.—MESSRS. J. A. RICHARDSON (*Chairman*), F. E. THOMAS, D. MCARTHUR, R. P. ROISSIER, F. BISSETT, C. W. LACEY, T. A. KINMOND, A. H. MEAD, W. H. G. LEAHY, W. A. J. MILNER (*Visitor*), J. F. FRASER, H. C. WESTAWAY, and T. C. FORBES (*Honorary Secretary*).

The Minutes of the last Meeting were confirmed.

BANGALORE DELEGATES.

The Chairman proposed, seconded by Mr. W. H. G. Leahy: "That Messrs. F. E. Thomas and F. Bisset should represent the C. T. P. Association at the Annual Meeting of the U. P. A. S. I. to be held on August the 9th, at Bangalore, and that an allowance of Rs. 100 each towards the Delegates' expenses be voted."—*Carried*.

PLANTERS' CHRONICLE.

From the Chair, seconded by Mr. J. F. Fraser: "That the Honorary Secretary be authorised to order on behalf of Members monthly copies and annual bound volume of the *Chronicle* and also bound Book of Proceedings of the U. P. A. S. I."—*Carried*.

PRICE OF RICE.

Proposed by Mr. W. H. G. Leahy, seconded by Mr. F. E. Thomas: "That the Tahsildar of Uttamapalayam be sent postcards and requested to send weekly a notice of the price of rice there to Mr. D. McArthur, Munjamalai Vandiperiyar, and Honorary Secretary, who will circulate for information of Members."—*Carried*.

PEERMADE GAME PRESERVATION COMMITTEE.

Resolved.—That as Mr. H. D. Deane has gone home, the Committee appoint a new Honorary Secretary.

LADY AMPHILL'S NURSING INSTITUTE.

Resolved.—That correspondence be circulated and subscriptions invited. Subsequently the sum of Rs.240 was subscribed by Members present.

EUROPEAN MEDICAL OFFICER SCHEME.

Proposed by Mr. W. H. G. Leahy and seconded by Mr. D. McArthur: "That a scheme for the employment of an European Medical Officer by the Mundakayam and Peermade Districts be considered."

Resolved.—That a Committee of six representing both districts be appointed to discuss the matter.

The following were elected for the Peermade District:—Messrs. D. McArthur, W. H. G. Leahy and Honorary Secretary.

MR. LEAHY.—

Gentlemen,— Before the Meeting closes I should like to call the attention of Members to the fact that we are going to lose a popular member of the district, namely, Mr. Mead, who will shortly be leaving us to take up a billet in the Wynaad. We very much regret his departure, but at the same time wish to congratulate him on his new appointment. He will have our best wishes for his future, and we hope he will sometimes re-visit the old district.

Mr. Mead replied in a few suitable words.

With a vote of thanks to the Chairman the Meeting closed.

(Signed) T. C. FORBES,
Honorary Secretary,
C. T. P. A.

EXTERMINATION OF WHITE ANTS.

A reward of £5,000 is offered by the Government of the Straits Settlements and the Federated Malay States together with the Planters' Association of Malaya for the extermination of white ants. Competitors are to send full particulars of their scheme, which will be treated as confidential, to the Editor, *Agricultural Pulletin*, S. S. & F. M. S., Singapore, or to Mr. W. J. Gallagher, Office of Director of Agriculture, Kuala Lumpur, F. M. S.

The reward is intended for the destruction of *Termes Gestroi* in rubber plantations; an account of which has been already published in the *Bulletin* and not for a mere poison such as arsenic, corrosive sublimate or nicotine which will destroy any insects which happen to be touched by it. The sole difficulty in exterminating *Termes Gestroi* consists in the fact that the main nest lies underground at an unknown spot, and from it radiate small tunnels of considerable distance by which the termites attack the trees in the plantation.

Attempts to destroy them at the point of attack are of little use, as the insects can retire underground to the nest, and attack other trees by means of fresh tunnels.

Reviewing the report of the Resident-General (Sir W. Taylor) for 1908, the *Malay Mail*, July 9th, says:—The acreage under rubber was increased during the year by 41,813 acres, making a total of 168,048. The Director of Agriculture gives the number of estates in the F. M. S. as 300, their total acreage as 455,596, and the number of trees as 26,165,310. The health of the labour force improved, but there was not a similar improvement in the case of European employees. The rubber export increased by 59 per cent., and its value by 16 per cent., the export duty on this article realising \$114,018,

INDIAN TEA ASSOCIATION, CALCUTTA.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee held on the 29th June, 1909.

Seventh Congress of Chambers of Commerce of the Empire.—A letter of 22nd June from the Bengal Chamber of Commerce in this connection was considered. It mentioned that the Seventh Congress of the Chambers of Commerce of the Empire would open at Sydney, New South Wales, on the 14th September next. A copy of the official programme was forwarded for information and this indicated the nature and scope of the Congress. The letter from the Chamber further stated that arrangements had been made whereby Mr. A. McRobert and Mr. G. B. Allen would act as joint representatives of the Upper India Chamber of Commerce and of the Bengal Chamber. They would bring forward for the consideration of the Congress three resolutions dealing respectively with (1) the interference of jail manufactured goods with private enterprise; (2) the Indian Excise Duties on Cotton goods; and (3) the imposition of double income taxes. The first and third of these would be submitted in behalf of both Chambers, but the second would be proposed only by the Upper India Chamber. The Association were asked to say if they wished to suggest any other resolution that might be brought forward by the Chamber representatives, and it was agreed to reply that the Committee had no suggestion to make in this connection.

HEELEAKA EXPERIMENTAL STATION.

REPORT OF WORK FOR MAY.

Garden Work—Manuring.—The manuring of the plots for the year has been completed with the exception of those plots which are to receive divided applications of manures. The plots which have been manured are the following:—

Plots 2 and 3 of the manurial series, which have had only sulphate of ammonia and nitrate of ammonia, respectively, during the four years they have been under experiment, are again to be treated with the same manures this year, not only in order to find out the ultimate effect of these manures on tea, but also in order to provide material for the chemical experiments which are in progress in connection with the quality of the leaf from bushes undergoing various manurial treatments.

Plots 15 and 16, which last year received superphosphates, sulphate of potash and oilcake, have this year been treated with Mati Kalai at the rate of 20 seers per acre. This is in pursuance of a scheme of complete manurial treatment laid down by Mr. Hutchinson.

Plot 19, which last year received a manurial mixture, is also being treated with Mati Kalai this year.

Plots 20 and 20a are again being treated with nitrate of potash as they were last year. These are also plots the leaf from which is being used for the chemical investigation which is in progress.

Those oilcake and cattle manure plots which were left last year unmanured in order to study the residual effects of their respective manures, are again being left without any manures, and in addition those plots of the manurial series which, during the last four years, have received complete treatment of artificial manures, are to remain unmanured this year, in order to see if their residual effect is such as to compensate for the very large initial expense which their use entails.

In addition to the original series of manurial plots, several other plots have now been devoted to manurial experiments, and this year the following of these have received manures:—

A plot has been manured with fish guano supplied by Messrs. Gillanders, Arbuthnot & Co.

Another plot has received the same amount (2½ cwt. per acre) of a special fertilizer supplied by Messrs. Shaw, Wallace & Co.

The plots on which a comparison is being made of single and divided applications of sterilized animal meal and oilcake, respectively, are again being manured in the same manner this year.

Cutting down of young Tea.—That part of the clearance which was not cut down in January has been cut down to within two inches of the ground as was, decided by the Advisory Committee in December last. It is satisfactory to be able to report that the tea, which was cut down in January, is coming on well, and no single instance of the death of a bush has been noted.

Hoeing.—Light hoeing has been now for some time in progress, and the first round is nearly completed. The prolonged drought in the earlier months made deep hoeing rather late, and in consequence light hoeing was begun rather later than usual.

Plucking.—There have been five rounds of plucking, and the total amount of leaf plucked up to the end of May was 64 maunds 28 seers. The amount plucked last year to the same date was 41 maunds 31 seers. The increase this year is chiefly to be accounted for by the fact that at the beginning of last year a large part of the tea was cut back.

Laboratory Experiments.—*Chemical investigation of fresh leaf.*—Estimations of the principal ingredients of the leaf from a small number of selected plots, which are being carried out weekly by Mr. Riswas and me, are in progress, and are being conducted in the manner and with the objects laid down in the programme of work which I sent to the Committee through Dr. Mann some weeks ago.

The results of some four weeks' work are now to hand, and I believe that the interpretations which will be possible later on will be of considerable interest, and, I hope, of practical value.

Experiments in Manufacture.—Three days a week are being devoted to these, and experiments are in progress in the factory at Pandasulia. Results are not yet to hand which warrant any definite statements on the subject.

(Signed G. D. HOPE.)

New Guinea as a Rubber-producing Country.

Sir Rupert Clarke, Bart. who returned to Sydney from New Guinea lately, is enthusiastic as to the possibilities ahead in Papua. "The place is making immense strides at present, and I think things are going to boom there. I have invested a good deal of money in New Guinea and I am going to invest much more." Sir Rupert is head of a company owning rubber estates. He sees errors in the methods of administration, but adds, 'whatever is done or not done up there in the way of administration, they simply cannot stop Papua from forging right up to the front.'

The Jamaica Estates Rubber Company is being floated in London with a capital of £300,000. The Directors are:—Sir Edwin Cornwall, Kt., Sir Henry A. Blake, K.C.M.G., Lord Osborne de Vere Beauclerk, Lord Teynham, and two others.

Mr. Ernest S. C. Clarke, of Woodbriar Estate, Devarshola, and Mr. John Elphinston, of Wentworth Estate Cherambadi, are authorized by the Government of Madras to witness the execution of labour contracts.

A Consular report states that the exports of Sisal Fibre from German East Africa have increased nearly sevenfold in five years, and the value of the fibre has been maintained more or less at the same level in spite of the enormously increased production, which in 1907 was put at 2,830 tons, worth £108,084. Sisal undertakings in that part of the world are on the increase, and the care with which the fibre of German East Africa is prepared has given it a reputation for high quality. The imposition in 1907 of an export duty of about 4d. on every plant and about 14d. on every bulbil taken out of the country will probably give the above Colony a still stronger lead than it has now in Sisal production in East Africa.

INDIAN TEA CESS COMMITTEE.

Advertising in America—Joint Fund, 1908-09, Indian and Ceylon Teas.

The following report by Mr. R. Blechynden, the representative of the Indian Tea Cess Committee in the United States, upon the work done in connection with the Joint Fund during the year ended 31st March, 1909, is published for information.

INDIA AND CEYLON TEAS AMERICAN ADVERTISING FUND.

Report Season, 1908-09.

I have the honour to submit my Annual Report for 1908-09, the fourth season during which operations have been conducted by the Joint Fund, and the last, as joint work will now cease.

General Plan.

2. My previous reports have been very full and have set forth in detail the system pursued. As the same lines have been followed the ground need not again be traversed here, and freed from the necessity of detailed explanations this report can be made brief. For the sake of uniformity subjects will be dealt with under the general heads previously used.

Newspaper Advertising.

3. Towards the middle of season 1907-08, for reasons of economy, to offset expenses in other directions, considerable reduction was made in the area over which newspaper advertising had been conducted up to that time, and at the date of my last report we were using 65 newspapers in 33 towns in 4 States, *viz.*, Missouri, Indiana, Ohio and Illinois. Practically all these papers were regularly used for at least three years, and in a number of instances for four years.

4. During the season special work was extended, and as towns where newspapers are published were covered, the newspaper advertising was also extended, so that in March 1909, we were finally using 85 newspapers in 44 towns.

5. As we realized that the advertising in the new places could not be carried on for any great length of time, we tried to compensate for the absence of that continuous and persistent work which is recognized to be the most efficacious, by initiating and finally concluding our advertising, with extra large display. In starting in these new places we used quarter page display advertisements for some days: these were then reduced to half the size, and in places where the conditions were suitable, Grocers' names were in due time added to the regular advertisement. Later, when postcards were being sent to consumers, the newspaper advertisements were changed and included a cut corresponding with the figure shown on the postcard. Finally, during the last two weeks of the season, a double column five-inch advertisement was placed daily in all the papers we were using. Specimens of the various forms of the advertisements referred to are attached. This season newspaper advertising came to about 30 % of the total expenditure against 54½% last season and 66½% in 1906-07.

Special Work.

6. The work done by our Special men has been fully described under this head in the reports for the last two seasons. During the season we visited 520 towns and villages, and tea was placed in 1,600 different stores. These bought 57,144 lbs. of tea giving an average of about 35·7 lbs per store. Of this 23,099 lbs. was black tea and 34,045 lbs. green tea, giving an average of 14·4 lbs. black and 21·2 lbs. green.

7. Experience during the year has fully borne out the conclusions previously drawn, that the results obtained where our men accompany the jobbers Salesmen justify the expense. Unaccompanied Salesmen give

incongruous results, appear to make spasmodic efforts and finally get discouraged, or confine their efforts to selling green teas, a relatively easy matter. These points might be clearly illustrated from our records, but I will not burden this report with details.

Stated briefly an analysis shows sales :—

With Specialty men	16'6 lbs.	black tea	20'2 lbs.	green tea	36'7 lbs.	per store.
Without	" 7'2 "	" "	24'2 "	33' "	" "	" "
With	" "	mailing lists filled by	75'71 %	of stores.	" "	" "
Without	" "	" "	66'49 %	" "	" "	" "

8. As our aim is to have our black tea well distributed, so that there shall be a supply immediately available to meet any demand we can create, placing small quantities in a large number of stores answers our purpose better than placing large quantities in a few stores. To effect our object requires continuous steady work day by day, and calling at the small as well as the large stores. Our advertising scheme will sell tea to one class as readily as to the other, if it is properly presented.

Special Territory.

9. During this season we have tried to round off and fill up the blanks in the territory with which we have been dealing. The four States mentioned have together about the same area as the two Bengals and Assam, containing over 200,000 square miles with an aggregate population of about 15 millions. These figures include the City of Chicago, with a population of about 2 millions, but we have made no organized attempt to deal with this great city, as to do this effectually we would have to devote our entire efforts and funds to this one purpose for a considerable period. There are special difficulties in dealing with Chicago into which I need not enter. We are likely to get better results at a smaller cost in lesser places, in the aggregate more important to us than that one city. Meantime the packet teas continue active there, while they cannot, or do not, attempt the work we are doing; the result of our work will also benefit them in due time.

10. Maps are attached to show the places we visited during the season. If these are compared with the maps attached to previous reports it will be seen that there are but few places in these four States left uncovered, and these not important ones.

Postcards.

11. In my last report I mentioned that we had just received a new (the fourth) postcard entitled "A Tea Picker," that 153,500 had been printed and some 9 thousand of these used in season 1907-08. Later another edition of 28,000 of this card was printed, so that allowing for the number used last season we had 170,500 for the current season. This supply proved insufficient for our requirements, as by the end of March we had mailed 178,276 postcards and there were still mailing lists aggregating several thousand names to be dealt with. To make up the deficiency we have used cards printed for the India Separate Fund. They differ only in respect to the type matter, having been lithographed at the same time and from the same stones.

12. The number of mailing lists received during the last few weeks greatly exceeded estimates, as Jobbers made special efforts to obtain and send these, when they realized that it was their last opportunity. The monthly average number of cards sent out in the four months November, December, January and February was 6,298, while in the one month of March 11,639 cards were mailed. But for this final rush the estimate made 12 months ago, in the 20th paragraph of my last report, would have proved accurate.

Show Cards.

13. Show Cards for Grocers' stores to correspond with the postcards were received from the press in time for specimens to be sent with last season's report. Sixteen thousand three hundred of these were printed and have all been distributed.

Sample of Tea.

14. The advertising system we have followed, fully described before, includes sending through the mails direct to consumers, a sample of tea and a measuring spoon enclosed in a box carrying printed instructions for making tea. The address tag bears the name of the Grocer who supplied the address and thus conforms to the system followed with the postcard.

15. During the season 83,119 samples were mailed and several thousands have yet to be sent in accordance with our obligations to Jobbers who are in turn committed to the Grocers to whom they have sold tea. At present our liabilities in this way are estimated to be between 15 and 16 thousand samples, so that by the time we close the account we will, on account of this one season have sent out some 100,000 samples as follows:—

April	1908	...	...	...	...	17,507
May	"	...	...	...	...	6,443
June	"	...	...	...	...	10,166
July	"	...	...	...	...	7,936
August	"	...	...	...	...	5,546
September	"	...	...	...	...	3,141
October	"	...	...	...	...	4,414
November	"	...	...	...	...	3,253
December	"	...	...	...	...	4,430
January	1909	...	...	...	...	4,996
February	"	...	...	...	...	6,112
March	"	...	...	...	...	9,165
Total ...						83,119
Estimated commitment ...						16,000
Probable Total ...						99,119

16. It is convenient here to summarise the figures for postcards and samples together, and show the number of pieces of advertising matter sent through the mails direct from this office.

Postcards sent to 30th March	...	...	178,266	
Estimated requirement to close	...	...	12,659	
				190,935
Samples sent to end of March	...	...	83,119	
Estimated requirement to close	...	...	16,000	
				99,119
				290,054

Against 257,000 pieces sent out last season.

Tea Measure.

17. We have continued to use these with the samples sent out. There may be a few gross left in hand when the last lot of samples yet to go, have gone. These will be handed over to our friends the Jobbers who will be exceedingly glad to get them, and they will be fully utilized for the purpose for which they were designed.

Food Shows.

18. There have been no Food Shows held in this territory during the season as the Grocers suffered greatly from the depression in business and did not care to incur the expense. We have however assisted a Jobber who "demonstrated" tea in a department store, sharing the expense with him. As all sales of tea were registered to the credit of the Grocer patronized by the purchaser, and the retailers' profits sent to the various Grocers concerned no antagonism was aroused.

19. For a part of the year we continued our co-operation with the Jobber mentioned in paragraph 30 of my last report, who had a special man calling

upon Grocers and showing them and their clerks how tea should be made and inducing as many of them as he could persuade to try a cup. This work is excellent where it can be watched and followed up by the Jobber, but is something we cannot usefully attempt ourselves. It was discontinued only because the Jobber in question desired to utilize the services of his special man in a more directly remunerative way, and was unable to find a suitable man to carry on this special work.

Indian and Ceylon Postcards.

20. This is our novelty this season. It is also so far as we know and as we believe it to be, an entirely novel and original form of advertising the products of one country in another country. The idea behind it is that postcards bearing foreign stamps and post marks, carrying views of attractive subjects, will attract immediate attention and that the advertising matter these bear will have greater consideration than if it came before those we aim to reach in a more ordinary way. The appeal made to the Grocer by the importance given to him when his name is printed on a postcard mailed in a foreign country is a factor to be considered. The fact that he is selling genuine India and Ceylon tea is also in a measure vouched for to his customers. To realize the advertising value of the scheme one has only to consider how a similar scheme worked for say Havana or Porto Rico Cigars would influence a person residing in a small town in England, were he and some of his friends to receive different postcards from Cuba mentioning the name of a local tobacconist.

21. The detailed working of the plan has thrown a great deal of work upon the executive of the Indian Tea Cess Committee in Calcutta. The use of postcards in such a manner was not quite clearly covered by the rules of the Postal Union, so before we ventured upon printing the large number required the points raised were placed before the proper authorities in India and then test lots were sent through the post. Some of these were surcharged owing to the rules not being very clear, but finally the difficulties were cleared away. Meantime through the kind offices of Sir James Buckingham negotiations had been opened with Messrs. Raphael Tuck & Sons and during the summer, when in England, I arranged for 150 thousand postcards with printing outfits to be sent to Calcutta.

22. Since then we have had to order about 60 thousand more of these cards as the mailing lists sent to Calcutta together with those yet to go are estimated to contain over 200 thousand names. The organizing of a proper staff to deal with his large number of names and generally to handle the scheme properly has been thrown entirely upon the Calcutta executive, and I desire to point out that but for their kindly consenting to assist in this matter it would have been difficult to have carried out the scheme.

23. The postcards have been arriving with considerable regularity, but it is not possible to obtain precise reports as to their effect. In their nature they are appeals to individuals widely scattered over a large territory with no common channel of communication with us; and like all other general advertising not keyed by direct sales, the value has to be assumed. We know that the cards aid in selling tea to Grocers.

24. Before concluding the subject I may mention that 18 cards were selected, ten of these being India and eight Ceylon views. Although each consumer will receive but one card, it may be assumed that many of the recipients will compare cards and a variety has been used with this in view, to enhance the interest the cards are intended to create.

Wagon Umbrellas.

25. The last section dealt with a novel form of advertising and I have here to record our use of a well known and favoured one. Wagon Umbrellas are substantial affairs 5 feet in diameter mounted upon strong 6 foot poles and provided with metal attachments to fix them upright to the driver's seat or allow of their being closed and laid flat if desired. The stout cloth tops, of six panels alternate red and white, are lettered in bold characters with the words India and Ceylon Tea in each panel. The unusually cool

weather has delayed their distribution but 2,000 will be in use during this summer. In effect a wagon umbrella is a portable and travelling bill board, carried into all parts of the City in accordance to the wagons errands. As a large number of these have gone into country places we can count upon their being carried all over the State. We could distribute a great number more with advantage but summer is the season when they are in demand and the work has now ceased.

General.

26. Last year's report included a statement showing the imports of tea into the United States for each of the years since 1898, the amount of India and Ceylon tea imported in each of these years and the percentage of these to the entire imports. The figures were compiled from the United States Customs returns made up to the 30th June and those to 30th June, 1907, were the latest then available. I now therefore add the figures to 30th June, 1908, and may point out how they compare with those for the previous year:—

Imports to 30th June, 1908.

		All Teas.		India and Ceylon.	
1908	...	94,149,564	...	19,241,271	equals 20·4 %
1907	...	86,368,490	...	16,657,791	" 19·2 %
Increase...	...	7,781,074=9 ⁰ / ₁₀		2,583,480=15·5 ⁰ / ₁₀	

Gross Imports of Tea into the United States for Years ending 30th June.

		All Teas.		India and Ceylon.		Per cent.
1898	...	17,957,912	...	6,984,375	...	9·7
1899	...	74,089,899	...	4,930,317	...	6·6
1900	...	84,845,107	...	8,246,230	...	9·7
1901	...	89,806,453	...	7,187,594	...	8·3
1902	...	75,579,125	...	8,475,179	...	11·2
1903	...	108,574,905	...	15,007,367	...	13·8
1904	...	112,905,541	...	16,485,554	...	14·6
1905	...	102,706,599	...	17,013,678	...	16·3
1906	...	93,621,750	...	17,696,994	...	18·9
1907	...	86,368,490	...	16,657,791	...	19·2
1908	...	94,149,564	...	19,241,271	...	20·4

27. The current season will end on the 30th of June and it will I think mark the beginning of a new condition for India and Ceylon teas in this market. The possibility that an import duty would be imposed upon tea began to have a perceptible effect on the market in November, when several well-known tea men gave evidence before the Ways and Means Committee of the House of Representatives at Washington. By about the end of January the available Japan and China tea having changed hands, sometimes more than once, attention was turned to India and Ceylon teas. These are always the last to share in market activity owing to the proximity of the stock carried in London. As it is anticipated that the tariff bill will be passed before the 1st June, and new teas will not be available from China and Japan to arrive within that date, Importers have brought in unusually heavy shipments, not only from London and Canada but even from Bremen and Hamburg to anticipate a tea duty being imposed. While all the teas thus imported may not be India and Ceylon, by far the larger part comes from those countries. Much of this tea was bought when the London market was affected by the fear of an increase of the British tea duty, so that the purchases made were probably not so excessively cheap that they can be shipped back profitably. Therefore we may anticipate that whether a duty is imposed, or otherwise, these teas will be forced into consumption and will help to create a market for further supplies.

28. I realize that the matter dealt with in the last paragraph does not fall strictly within the limits of a report dealing with the work done by ourselves, but I desire to point out that but for the work carried on by the India

and Ceylon Funds in past years, the market here would not have been prepared to deal largely with teas that had not been properly introduced to the public and for which no outlet had been created. India and Ceylon are now getting the benefit of the opening created by past work.

29. I have on a previous occasion pointed out that the expansion of this market will, within a very few years, require larger supplies of India and Ceylon tea than appear likely to be available unless larger areas are planted out. Already there has been a great increase in the importations of China Black teas, and should the demand for India and Ceylon teas in this country increase in the future at the rate it has done in recent years (it was 8,000,000 lbs. in 1902 and 19,000,000 lbs. in 1908) prices will rise, and a great impetus will be given to China Black tea importations here and in Canada.

ST. LOUIS,
10th May, 1909. }

(Signed) R. BLECHYNDEN.

COMMERCIAL MISSION TO PERSIA.

The following extract, pages 77—81, from the *Report on the British Indian Commercial Mission to South-Eastern Persia, during 1904-05*, by Mr. A. H. Gladowe-Newcomen, F.R.G.S., F.S.A., President, with special reference to Tea, is published for information:—

TEA TRADE IN PERSIA.

The tea trade with Persia, which was checked for a time by the combined influence of the new customs tariff and of years of scarcity in the South, continues to grow, and to grow in a manner that is quite satisfactory to India. Though the incidence of taxation on high grade Lamsars, and white teas, is, according to value, something less than the tax on black teas, it is heavy enough to drive, by increasing their cost, all but the very wealthy to abandon them in favour of cheap and medium priced Pekoes and Pekoe Souchongs. From this change India benefits directly.

The total imports of all teas at all Persian Ports are given by the Customs statistics for the following years ending March the 20th:—

Year.		Weight.	Value.	Sterling.
		lbs.	Krs.	£
1901	...	Yearly average 5,734,400	12,300,000	205,000
1902	...		13,000,000	216,667
1903	...		14,300,000	238,333
1904	...		16,873,220	281,220

These figures are not conclusive, for the increase shown by them in value is not in proportion to that in quantity, owing to shrinkage in the imports of the more expensive Java and China teas, which have been replaced by Indian teas of medium price and grade and by lower quality China tea.

The increase would have been very much greater had it not been that, since the introduction of the new Customs Tariff, large quantities of tea which used to be landed in Bandar Abbas, in transit for Trans-Caspian, Trans-Caucasian and Khorasan markets, whether the tea used to go *via* Yezd, are now sent round by sea. The new tariff, and the increased watchfulness of the Russian Customs officials, make tea-running across the border unprofitable, whilst at the same time Russia has attracted tea in transit for North Persia to Batoum by the opening of the Batoum-Julia, and the Batoum-Ashkabad routes by lessening the cost of carriage.

The Banque d'Escompte de Perse has also been offering to purchase tea in Bombay, Java, or Batoum, on advantageous terms, *i.e.*, at a commission of one per cent. for clients in North Persian Provinces, and its offers seem to have been well responded to.

The illicit trade in tea with Asiatic Russia through Persia has died a natural death, to the disadvantage of Yezd, but not inconsiderable smuggling trade in high grade Lamsars and white China tea has sprung up. These highly priced, and heavily taxed, teas, which are so much to the taste of Persians, are still sold and consumed in the south-eastern and central regions of Persia in quantities far greater than can be accounted for by the Customs figures, or warranted by the wealth of the community.

The Arabs are not drinkers of tea, but within the last two years there has been a great increase in the shipments of tea into Koweit, and other Arabian and Turkish-Arabian Ports. This tea is practically all re-exported, and is run in native craft across the Gulf to little known and unrequented Banders on the inhospitable Persian Coasts whence it is distributed up-country. It may therefore be reasonably argued, that the falling-off in the import of Appar and of high grade Lamsars is not quite so great as the official figures seem to indicate.

What this apparent falling-off amounted to may be gathered from the following figures, showing values of imports of the two great Gulf Ports of Bushire and Bander Abbas:—

Country.			VALUE.		Increase.	Decrease.
			1903.	1904.		
			£	£	£	£
Bushire.	{ India	... ..	27,601	33,282	5,681	.....
	{ China	... ..	11,526	16,585	5,059	.....
	{ Ceylon	... ..	3,234	1,808	.....	1,426
	{ Dutch E. Indies	... ..	19,759	7,497	.....	12,262

Country.			VALUE.		Increase.	Decrease
			1903.	1904.		
			Rs.	Rs.	Rs.	Rs.
Bander Abbas.	{ India	... ..	8,27,684	3,18,063	.....	5,09,621
	{ China	... ..	2,43,562	47,916	.....	1,95,646
	{ Ceylon	... ..	.....	1,504	1,504	.....
	{ Dutch E. Indies	... ..	1,49,790	57,953	.....	91,837
	{ Russia	.. ..	.....	75	75	.....

The figures above quoted represent the movement of the tea trade till the end of December, 1904. With the coming of 1905, however, imports of tea at both Ports (specially Indian tea) and at Bander Abbas in particular, increased rapidly, and the figures for 1905, when published, will in all likelihood show a substantial increase.

The prices and demands have by now adjusted themselves fairly well to the new Tariff duties, and there appears to be a considerable opening for Anglo-Persian firms which, by eliminating the many middle men and their commissions, would deal directly with the Indian grower on the one hand and the Persian merchant on the other. There is not the slightest reason why tea could not be indented for on sample; indenting on, and supplying to, sample would pay. The trouble found by one firm of merchants in Bushire, who had

entered into correspondence with a Ceylon tea firm, was that the Ceylon dealers would take no notice of the samples and prices of teas in request sent them, but wanted to force what they had for sale on to the markets.

The Statistique Commercial for the year ending March 20th, 1904, gives the following figures of Tea imports in Batmans (Man Tabrizi, 6½ lbs.) and Krans:—

Country.	Batman.	Krans.
	White Tea.	(Sterling).
China	25,975 (=1,518 cwt.)	623,878 (= £ 10,398)
British Empire	10,179 (= 595 „)	333,716 (= £ 5,562)
Dutch E. Indies	14,308 (= 836 „)	417,482 (= £ 6,958)
Russia	61 (= 3 „)	768 (= £ 13)

Country.	Batman.	Sterling.
	Other Teas.	
China	58,653 = 3,428 cwt.	640,714 = £ 10,678
British Empire	834,685 = 48,793 „	12,509,748 = £ 208,496
Dutch Indies	50,456 = 2,949 „	804,648 = £ 13,411
Russia	62,548 = 3,656 „	1,536,094 = £ 25,601
Turkey	326 = 19 „	6,172 = £ 103

NOTE.—For Indian-Persian-English Currency, Rs. 15=Krs.; 60=£1.

The following C. I. F. quotations may be taken as representative.

White Teas.—Silver tipped leaves comprising both China and Java tea, the former known as *Appar*, the latter as No. 1 *Lamsar*, average price, per 56 lbs. which is the weight of the China White Chests, is according to quality, from Krs. 350 to 450. White tea is in demand among the wealthy classes in the larger towns only. It is seldom or never used alone, but is blended with varying quantities of Indian, Java or China black teas.

China Tea.—China tea, where it is white tea, has already been spoken of; there is, however, a substantial import of green and black teas, from China. The Bushire quotation, per chest of 56 lbs., varies according to quality from Krs. 205 to 350. Little is imported *via* Bander Abbas.

Batavian Tea.—Some Batavian or *Lamsar* Tea, as that of China, is white tea. In the Southern markets, China and Batavian Teas have been in close competition, with varying fortune. At one time it seemed as if Batavian tea was becoming prime favourite amongst the wealthy, who were discarding China teas for it. The bazaars of Kerman and Yezd, and, though in a somewhat less degree, Shiraz, were full of the green boxes of *Lamsar* tea, which found a ready sale everywhere. Recently, however, imports from Java have fallen off very considerably. In Bander Abbas imports of China tea fell off even more heavily than the former, but in Bushire, while Java fell off to the value of £12,262, China made an advance of £5,059, chiefly in green tea and medium Pekoes.

Bushire quotations in May, 1905, for *Lamsar*, other than No. 1 white, were Krs. 280 to 380 per 80 lbs. according to quality.

Indian Tea.—Indian tea forms about 83 per cent. of all the tea consumed in Persia, and has benefited from the heavy taxation imposed on high-grade *Lamsars*, despite the fact that these are, value for value, less heavily burdened by the Customs Tariff than Indian teas. China and Java teas together used to form about 15 per cent. or 16 per cent. of the tea consumed by Persians.

They have now so appreciated in value that the very strong demand, which always existed, for Indian teas (possessing fair flavour and aroma with a fair proportion of orange tips, and costing, landed in the Gulf Ports, from 3½ annas to 6½ annas a pound), has increased. Those who before consumed *Lamsars* and China teas are now forced to turn to Indian tea in increasing numbers.

Indian growers and dealers ought, however, to remember that there is no market in Southern Persia for very highly priced teas (7½ annas per pound *c.i.f.* Bushire or Bander Abbas, is the outside limit) and no demand for broken teas and dust.

It is very evident that a tea answering the description of *Lamsar*, a blend of Pekoe and of Orange Pekoe with a good percentage of tips, yielding a pale, straw-coloured liquor, and possessing a delicate flavour, a tea which will bear "stewing" on the samovar, is the tea that is preferred by Persians in every part of the country. They delight almost as much in the look of the leaf as in the flavour of the liquor. It ought, however, to be possible to get a flowery Orange Pekoe in India, if not from Assam or the Dooars, then from Kangra, Kumaon, Darjeeling or the Dun, that will yield a liquor such as the Persians like, and that will yet be able to pass the customs as black tea. The Persian wants, above all, an "economical" tea, that will stand a lot of *drawing*.

It is important for Indian producers to bear in mind the fact, that the taste of consumers varies in Persia, and that what pleases tea drinkers in the North, will not, of necessity, suit the people of the South, and *vice versa*. They must therefore study the country, paying great attention to the requests of agents and buyers from the different regions, and ask to be furnished frequently with ranges of samples and prices, by which they are to work. I have already said how neglectful, at the very least, some sellers and growers of tea are of samples and prices submitted for their information and guidance by agents and merchants in Persia, and the tendency is, I fear, a common one.

Two cases have come to my notice which give some more or less solid reason for the mistrust with which Indian teas are viewed by the Persians, and I do not think that it will be out of place to mention them for the benefit of the "Trade" here.

(i) At the beginning, traders in Indian teas saw their way to big profits and quick returns. Taking advantage of the increasing favour with which Indian teas were being received, owing to their good quality, certain traders imported the cheapest and lowest grade tea they could find in Bombay and Calcutta, dirt and sweepings most of it, stuff that cost them, landed in Kerman, 4 or 5 annas a pound; this they palmed off on the Persians as Indian tea at Re.1 to Re.1-4 per pound. It is small wonder, that our tea fell into disrepute and that the Persians showed a preference for clean *Lamsar* in sealed boxes. I heard this at Bam, and it not only explains in some measure the failure of Indian tea in those parts of Persia, but also emphasizes the necessity that exists for all merchants, interested in any particular trade, having trustworthy agents—or at least supervising agents of their own in Persia.

(ii) While at Shiraz I found that there was one Indian Tea that had entirely disappeared from the market and had not been seen for 15 or 20 years. It was called *chahaisiah* by the Persians, and as I could get no sample, though it was described as being a black tea, of large leaf and ugly appearance, poor in fragrance and yielding a very strong dark liquor, I conclude that it was "Souchong." It seems that a fairly large quality of this tea used to be consumed, despite its strength and other poor qualities. People might have continued drinking it had not, as report goes, a certain Shahzada Kamara Mirza, Niamat-u-Sultaneh Vaziri-Jang, declared that on burning the leaf in a pan he had found traces of zanic, *i.e.*, orpiment or yellow arsenic. This frightened people and ultimately made the tea unsaleable throughout the whole country. I do not

know what truth there is in this story, but it is certain that this black tea is no longer used, better grades of Indian teas and *Lamsars* having replaced it, as they are doing the *Appar* and green teas of China.

In the South the demand is for a tea low priced, flowery, or even leaf, yielding a pale liquor, and possessing a delicate flavour, whilst broken teas and dust are disliked; absolutely black teas are not cared for much, and the demand for green teas is small.

In the North a black tea, having a Pekoe leaf, wiry and even, with few tips, is prime favourite and leafy kinds are not much in demand.

It would be worth the while of Indian tea traders to have leaflets, printed in *colloquial* Persian, describing the best method of brewing Indian tea, and the advantage of decanting the liquor from off the leaves when the tea was *drawn*, before putting it to stand over the coals in the samovar. The leaflets could be sent for distribution to Agents and Consulates all over Persia.

The consumption of tea in Persia is not going to decrease, but will increase. Nomads, Jews and Parsees, who used no tea formerly, are all becoming inveterate tea-drinkers now. The increase in the consumption of opium means an increase also in the consumption of tea, for every person addicted to the opium habit drinks an abnormal quantity of tea.

With the prospect of further development in the Indo-Persian tea trade comes, the necessity for fostering that trade in every way. Facilities must be placed in the hands of buyers and sellers, in their own interest, must see to it that markets do not become overstocked, as was the case lately in Yezd and Teheran.

The necessity for bonded warehouses increases daily. Bonded warehouses will enable importers and shippers to keep stocks at the ports, thus avoiding overstocking the up-country markets, providing against depletions, and saving an enormous percentage in money, as the duty, amounting in some cases to 100 per cent., need not be paid until stocks are drawn upon, instead of, as at present, immediately on arrival of consignments at ports.

Russian Tea.—Russian tea, which is put up in packets, and in neat ornamental boxes, of 1 *gervanker* (=88 miscals, or 14 ozs.), and of $\frac{1}{2}$ funt and $\frac{1}{4}$ funt (18 and 19 lbs., respectively), has met with some success in the northern towns, where it has become fashionable. Small consignments have been tried in Ispahan, Shiraz and the southern markets, but these have not realized the hopes of the consignees, though the tea is sold in Shiraz at 7 Krs. per paper and foil packets of 1 *gervanker*. Of the Russian tea that I have seen, about 60 per cent. has been Ceylon and Indian, and about 40 per cent. China.

Persian Tea.—His Highness Prince Kashif-es-Sultaneh, formerly Persian Consul-General in Bombay, holds a concession for the growing of tea in the Persian Caspian Province, at Lahijan near Resht, where some 300,000 bushes now about five years old have been planted out. The climate of the place resembles somewhat that of the Dooars, and is well suited to the growth of tea; but though Mr. Maclean, in his report, states that the plants there, three years' old, were doing well, no Persian grown tea is on the market. His Highness is now making enquiries regarding the possibility of securing the assistance of British capital and skill in his enterprise.

Reporting on Trade in 1908, the British Consul at Ciudad Bolivar observes:—"Rubber shipments were well maintained and Balata rubber reached the maximum amount ever shipped from here. It is difficult to reconcile statements about the early exhaustion of the Balata forests by the felling of the trees with the constant and increased production. There is, however, no doubt that the distances from the base to the points where Balata forests exist are rapidly increasing, and the cost of transport and collection must augment accordingly. I am informed that if the Home prices fell to below 1s. 3d. per lb., the production or collection could not be carried on any longer. The prices which prevailed in 1908, viz., from 1s. 7d. to 1s. 9d. per lb., are still remunerative."

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VOL. IV.]

SEPTEMBER, 1909.

[No. 8.

U. P. A. S. I.

INCORPORATED.

The Annual Meeting.

Opening at the Mayo Hall, Bangalore, at 3 P.M. on Monday, the 9th August, the Annual Meeting this year was brought to a close a little before 5 P.M. on Friday, the 13th idem. The usual Committee Meeting was held on the morning of the 9th instant, when the Secretary's Annual Report was considered, the audited accounts for the year scrutinised, and the agenda paper and probable course of business settled. The Hon'ble Mr. J. G. Hamilton, Chairman of the Association and "Planting Member" of the Legislative Council of Fort St. George, presided.

The delegates deputed to represent the various District Planters' Associations were as follows:—Anamalais, Mr. C. H. Brock; Central Travancore, Mr. F. E. Thomas and Mr. F. Bissett; Coorg, Mr. R. D. Tipping; Kanan Devan, Mr. A. Ff. Martin; Mundakayam, Mr. J. A. Richardson and Mr. K. E. Nicoll; Nilgiris, Mr. E. F. Barber; North Mysore, Mr. C. Danvers, Mr. R. G. Foster and Mr. Thomas Hunt; South Mysore, Mr. W. L. Crawford, Mr. A. R. Park, Mr. J. Aird and Mr. C. Lake; Shevaroy's, Mr. Guy Turner; South Travancore, Mr. J. Carson Parker; Travancore Cardamom Hills, Mr. K. E. Nicoll; Wynaad, Mr. Bernard Malcolm.

On Tuesday morning, when the Scientific Officer, Mr. R. D. Anstead, addressed the Meeting and Agricultural matters were discussed, the Hon'ble Mr. Stuart Fraser attended, as also did Mr. M. E. Couchman, Director of Agriculture, Madras, Professor Rudolf, Acting Principal of the Indian Institute of Science, Mr. G. H. Krumbiegel, Economic Botanist and Superintendent of Government Gardens to the Government of H.H. the Maharaja of Mysore, and Captain Edwards, Adjutant, Southern Province Mounted Rifles; and from time to time the following visitors also listened to the debates: Messrs. Wright (representative of Messrs. Parry and Co., Madras), J. Harding Pascoe, J. S. Wilkie, L. Lake, H. B. Irwin, H. Waddington, J. P. Green-Price, H. G. Bower, and H. Farquharson—the last-named being Assistant Ceylon Labour Commissioner, who availed himself of an opportunity to give a brief sketch of the working of the Ceylon Labour Commission and courteously replied to various questions put to him on the subject.

A full report of the Proceedings will, as usual, be published in book form, but certain papers and speeches are given here for convenience of early reference.

ANNUAL REPORT, 1908-09.

It is gratifying to be able to refer to the past twelve months as having marked an eventful period in the history of the Association.

In the first place, mention must be made of the appointment by the Government of India of an additional member of the Imperial Agricultural Service who is to work for some years under the control of the U. P. A. S. I. on behalf of the various Planting communities of South India. Mr. R. D. Anstead, the officer selected, has come among us possessed of no little practical experience of estate work, acquired in the West Indies. His services have not yet been formally lent to the Association, but it is understood that the Director of Agriculture, Madras, will attend the present Annual Meeting with a view to ascertaining and reporting the wishes of the Association in respect to Mr. Anstead's work. In the meantime the latter gentleman has made short tours in the Anamalais, the Nilgiris, and the Shevaroyes, and has thus, as well as in other ways, come into personal touch with a number of those whose interests he hopes to be able to serve during the next few years. A "plan of campaign" for 1909-10 is to be drawn up at the present meeting; and in this connection the question of opening a special office and engaging a staff will also come up for consideration.

Another notable event of the past year was the Conference held last January with Sir Roper Lethbridge, K.C.I.E., who, as President of the Anti-Tea-Duty League as well as in various other capacities, has been an assiduous worker on behalf of Planters in India and Ceylon. The Conference was a distinctly useful one, and may be said to have possessed the additional interest of having constituted the first Committee Meeting yet held by the Association quite apart from its Annual Meetings. It led up also to the appointment of Mr. George Romilly as a delegate to Ceylon, there to attend a Committee Meeting of the Planters' Association of Ceylon, and to pave the way for a closer mutual intercourse between that Association and this. Success was assured the moment Mr. Romilly kindly consented to undertake the task; and the sole cause for regret now is that the Planters' Association of Ceylon have found it impossible to send a delegate or delegates to visit the U. P. A. S. I. this year. They have, however, courteously expressed the hope that "this will only mean a temporary interruption in the exchange of visits between the two Planting Communities of South India and Ceylon so happily inaugurated by Mr. George Romilly in March last."

The Conference with Sir Roper Lethbridge also resulted in a decision on the part of your Executive that the pressing need for the construction of a railway between the Mysore State and the port of Mangalore on the West Coast should be urged once more upon the Governments concerned; and though delay occurred a Memorial on the subject was submitted recently to the Government of India. It should be noted that one had been sent up earlier on behalf of the inhabitants of the District of South Canara.

Turning to matters connected with the normal march of progress, a welcome has to be offered to the South Travancore Planters' Association, the latest addition to the list of affiliated Associations.

The Hon'ble Mr. C. E. Abbott, on the eve of his departure for England, resigned his appointment as "Planting Member" of the Legislative Council of Fort St. George; and His Excellency the Governor in Council subsequently appointed Mr. J. G. Hamilton, the present Chairman of the U. P. A. S. I., as successor to Mr. Abbott.

Upon the resignation of Mr. P. R. Buchanan your Association decided to recommend that Mr. George Romilly be appointed to represent them on the Indian Tea Cess Committee; and the Government of India acted upon this recommendation.

Telegraph Receipts.—The Resolution adopted at the last meeting elicited from the Director-General of Telegraphs the statement that, "to meet the convenience of the public Telegraph Offices have been instructed to supply receipt forms beforehand, on application, to admit of senders of telegrams entering

whatever particulars they wish to before handing in their message for despatch. This plan is being followed elsewhere and is found to suit very well."

Commission on Money Orders.—The Director-General of the Post Office in India is still not prepared to recommend the Government of India to make any reduction in the rates of commission on inland money orders.

Weights and Measures.—On the Resolution passed last year being communicated to the Board of Revenue, information was received that the Madras type measure and its sub-multiples or the Madras type seer and its sub-multiples had been introduced into all the districts of the Madras Presidency, except Ganjam, Vizagapatam, Godavari, Guntur and Malabar. Towards the close of last month the further information was obtained that the Madras type seer and its multiples and sub-multiples have now been introduced into all the stations of the Guntur District, but departmental sale of type seers is being carried on as an experimental measure in the Districts of Ganjam, Vizagapatam and Godavari, and of type measures in Malabar. The Board of Revenue believes that the standard measures will replace all others shortly in each of the Districts referred to above.

The Theni Bridge.—The Madras Government expressed a desire that the Association should address the Madura District Board direct. This was done, and the latest information is contained in a letter from the President of that Board which states that an estimate for Rs.30,000 for constructing a bridge designed to carry the ordinary road traffic over the Theniar has been sanctioned by the District Board and sent to Government through the Superintending Engineer, VI Circle, for scrutiny and sanction. The District Board has allotted Rs.15,000 for the work in the Budget for the next year, and arrangements will be made to start the work after the estimate is sanctioned.

Roads and Communications.—The roads concerning which Resolutions were passed last year appear to have been under the control of the Madura District Board. The Executive Engineer, Madura Division, reported in August 1908 that the Government had ordered the Ahtur Ghât Road to be abandoned, and that he had nothing more to do with it.

E. & A. I. Defence Association.—Mr. Irwin, to whom the Resolution adopted on this subject was communicated, replied that he was passing it on. Nothing more has been heard of the matter. It is appropriate, however, to make reference here to an "open letter" on the subject of relations between

Europeans and Indians that was addressed to the Secretary of State for India by the Behar Planters' Association and was signed also by various other representative bodies. The name of the U. P. A. S. I. was included in the list of Planters' and Trades Associations and Chambers of Commerce invited to add their signatures, but the original invitation miscarried and the communication received after this fact was discovered arrived too late to permit of the views of Councillors being taken before the "open letter" was sent on. These views, it may be said, were in agreement with the general tenour of the letter, and the Behar Planters' Association was informed accordingly.

Popularization of Coffee.—The Government of India were memorialised in due course regarding the proposition that a cess should be levied on exports of Coffee, in order that funds might be raised for the campaign projected in London with a view to the popularization of Coffee. The reply, received only last month through the Government of Madras, is to the effect that the Government of India are of opinion that it has not been shown that the small amount which the levy of the proposed cess would produce is sufficient to affect the consumption of Coffee appreciably; that they do not consider that sufficient reasons have been adduced for legislation in the present instance; and that they regret that they are unable to accede to the request contained in the Memorial.

Madras Planters' Labour Act.—No further amendments to Act I of 1903 have been introduced. During the year, however, the Committee specially deputed by the Association to inquire into the subject of

Labour Recruiting and Emigration has completed its work and submitted a report. Various labour problems are likely to come up for discussion during the present Meeting.

The Anti-Tea-Duty League.—No information is available as to the amount of support given to this League by Planters in South India since August last year; but Sir Roper Lethbridge, when here, was able to throw considerable light on the work of the League; and the fact that no alteration was made in the British Import Duty on Tea in the latest Budget scheme of the Home Government must certainly be attributed in great measure to the vigorous agitation that was ably carried on by the League.

Ceylon Import Duty on Tea—As regards this the most reliable information is to be found in Mr. George Romilly's report on his mission to Kandy in March last, which shows that though no advance towards the adoption of a system of fiscal preference on the part of India and Ceylon with respect to Tea shipped from one country to the other can be hoped for at present, it may possibly come at some future date if a wider scheme of Tariff Reform in the British Empire should prove acceptable.

Government Cinchona Cultivation.—Dealing with the Association's Resolution on this subject, the Government of Madras stated that they had at no time promised that new areas would not be opened up for Cinchona cultivation; that such land as is found necessary to maintain the existing effective area of the plantations will be added when required; and that there has been no departure from the policy of purchasing from local growers such quantities of bark as Government might from time to time require, large purchases of this kind having repeatedly been made. The Anamalai Planters' Association has given notice of a desire to bring this subject up again.

Pepper Vine Disease.—In compliance with the request made that Dr. E. J. Butler might be deputed to further investigate the disease from which Pepper is suffering in the Wynaad, the Inspector-General of Agriculture has been requested, in the absence of Dr. Butler on leave, to depute Mr. MacRae, the Acting Imperial Mycologist, to investigate the pepper vine disease. The hope has been expressed that Mr. MacRae will visit the Wynaad in November next.

Liquor Shops in the Vicinity of Estates.—Representations on this subject have been made to the Governments of Madras, Mysore, Travancore and Cochin.

"*The Planters' Chronicle*" has been published throughout the year, and through this medium an endeavour has been made to keep all members of the Planting community of Southern India in general touch with the transactions of District Planters' Associations and the U. P. A. S. I. Testimony to the usefulness of this little publication has not been wanting.

Accounts.—An audited statement of Income and Expenditure and the Balance-sheet as on 31st July, 1909, are laid on the table. They call for a few remarks, not only because of the first appearance of the Scientific Officer Fund but also for other reasons which will appear in the sequel. Figures given in the estimates for the year compare with "actuals" as follows:—

	Estimate.	Actual.
Income	Rs.6,210-15-1	Rs.6,298-13-1
Expenditure	„ 4,700-0-0	„ 4,678-6-9

The additional income is chiefly due to the subscription paid by the South Travancore Planters' Association, the latest recruit. On the expenditure side there is an improvement on the estimate notwithstanding an extra item of travelling expenses which was not provided for. In addition to the items comprised in the above totals, there are in hand Rs.175 on account of the Scientific Officer Fund; and Rs.187-8-0 subscription for 1909-10, paid in advance. A loan of Rs.550-12-5 to the Scientific Office is recoverable. The balance in the General Fund may, therefore, be said to be Rs.1,620-8-4. The above items are not included in the comparative memo. of "Estimates" and "Actuals," for none of them constitutes an item of Income or of irrecoverable Expenditure relating to the year 1908-09. Besides the above, a Reserve Fund of Rs.1,000 is on fixed deposit with the National Bank

of India, Ltd., Madras. Omitting items that may be classed as "extraordinary," the income for the year stands at about Rs.4,130, the expenditure at Rs.3,250. The Balance sheet shows a credit balance of Rs.2,875-6-4, and there appears to be a fair prospect of a small addition being made to the Association's funds during the next few months, as it is expected that a second dividend will be declared in respect to the estate of Messrs. Arbuthnot & Co. At what rate this dividend is likely to be calculated cannot be stated at present.

In conclusion, your Secretary begs to place his resignation at your disposal.

The Chairman's Opening Address.

The Chairman (the Hon'ble Mr. J. G. Hamilton) said:—

GENTLEMEN,—I shall not attempt to inform you how you have prospered or otherwise during the past year, as our sphere of influence is so widespread that it is seldom all Districts find quite the same results even from the same product, and you all know better than I can hope to do how your own Districts have fared. Only one thing stands out clearly: the ever-increasing demand for labour does not seem to indicate that any of us are going downhill.

The past year has been one of incessant work for the Secretary, and if we cannot report success all along the line it is not his fault. To instance two details—First, I do not think that any of you, even those who received the many circulars on the subject, have any idea what amount of work the small Conference with Sir Roper Lethbridge involved; the number of private letters between all of us and the many interviews and arrangements which fell on the Secretary far exceeded what appears in circulated information. Secondly, our endeavours to meet the convenience of a large number by holding this Meeting a great deal earlier than usual have thrown a heavy strain on him, and I must ask you to excuse us if you find anything incomplete in this connection.

Tea Duties.—These both in England and Ceylon have called for a great deal of attention. Some of us had the pleasure of meeting Sir Roper Lethbridge, President of the Anti-Tea-Duty League, in January, and discussing things with him and amongst ourselves, with the result that we confirmed the Resolution passed by Central Travancore and recommended Tea Planters to support the League. We also took steps aiming at a better understanding with Ceylon, Mr. Romilly very kindly agreed to help us by visiting Kandy while a Committee Meeting was being held; his reception there was most cordial, and we hope to see more frequent informal communications as the result of his call. With much regret, shared we are assured by friends over there, we have learned that it is impossible for them to send an equally representative delegate to join us this year. No doubt the short notice given on account of our Meeting being put forward has been partly responsible for this disappointment.

In Tea matters I must speak with the greatest diffidence, having been an utter stranger to them until you placed me in this Chair; but my opinion gained since then is that there has been a mistake made in specializing opposition, Ceylon against India and *vice versa*, when naturally it should be Ceylon and India against the World. It may not be possible at present to have the Ceylon Tax removed, though I cannot see why a rebate should not be allowed to properly invoiced and certified Indian Teas, but anyhow we may be able in the future to impose a similar general Duty in India, when hopes may be entertained of a mutually satisfactory adjustment. Please, however, remember that until this year I have never been brought into contact with Tea Politics and be gentle when criticising my views.

Coffee Cess has been refused. The Governments of India consider that the amount which the Cess in India would produce would be useless, so though not in an unsympathetic manner they decline to interfere. I did not look for this after the Budget speeches, as Sir Guy Fleetwood Wilson said most clearly that with the balance of trade turning against India it is the

bounden duty of Government to support Exchange, *i.e.*, Export, by every means in its power. I think there is a little inconsistency somewhere.

We are a purely exporting Industry and after a year's careful study we declared our belief that we could do good with the small sum expected, but the Government of India has disagreed with us and does not see its way to provide the necessary machinery to enable us to collect the money.

I have been told by friends that I am to blame for not making more of details; that I should have insisted more frequently and strongly that we had no intention of working in Europe unless all the other coffee-producing countries helped to make up the £20,000 per annum required and that if they failed us we should work nearer home or else leave the money to accumulate until it amounted to a really useful sum as was suggested a few months ago. With all respect to high authorities I, who have been connected with Coffee affairs for 28 years and a Planter for 22 years, hold that we could very appreciably increase the consumption of Coffee in the East with our collections, and I recommend the matter for your reconsideration. Perhaps I am to blame, perhaps the case could have been put in a more convincing manner.

Captious critics may point out that if we use the Cess to foster Internal Trade we are not exporting. Perhaps so, but we import so little that money paid to us in no way helps to increase the balance against India; and money spent in drinking coffee may be diverted from foreign liquor trade or even from the Rs.5,00,000 or thereabouts annually spent in importing inferior coffee.

Valorization does not seem to have settled down to a steady course, and consuming markets live more or less from hand to mouth ever dreading a new move. Control is no longer entirely in the hands of Government, and we can only hope that this powerful lever will not be used for speculative purposes. It is true that up to date our coffee has not been affected as much by the term markets as some others, for we serve a special market and most East Indian coffee goes into consumption fairly straight; but I must warn you again that we are in danger of losing that special market, for another coffee is being actively forced forward as the only pure coffee and is of such a coarse quality that we incur a double risk if we do nothing: either the public taste may become so corrupted that it will no longer appreciate good coffee (which I do not expect to happen), or more probably people may say to their retailers, "If that is the flavour of pure coffee, please give me something very impure." We have recently heard of a brand of high-class coffee being introduced into the retail market, and if it is as good as it is said to be I hope that it may meet with success.

Roads and Communications—Theni Bridge.—Agitation for sanction has disappeared from our programme, but I fear that we may be obliged to assist in keeping some memories active in order to get the construction of the bridge actually started.

Arsikere-Mangalore Railway continues to blush unseen; it cannot be dropped from our Agenda as some day it must come, though that day seems more distant than ever; the line from Mysore to Hassan will improve traffic prospects, and later on a more fortunate Chairman may announce success. Meanwhile I recommend close attention to improved road transport, amongst others the Renard Road Train experiments are most interesting and on the whole I am informed hopeful though not at first immediately successful.

Europeans and Indians.—While fully maintaining the determination of this Association to refrain from entering into Politics, we thought it advisable to support the Behar Planters' Association in an open letter which they addressed to the Secretary of State soon after our last Meeting. The original copy sent to us was lost in the post so we were only able to express general concurrence after the letter itself had been despatched. Capital is still very necessary for India, and it is hard to see how any can be attracted unless the country is kept in order. Our own relations with Indian neighbours remain excellent as a general rule, for we meet chiefly the real India, the rural population which is content with the present state of things, or at least only complains of recent developments.

Scientific Officer.—Mr. R. D. Anstead, B.A., has arrived but has not yet been formally handed over to us; pending orders on this point he has been looking round as far as he could to learn his way about, and will probably visit every District before we can lay down a definite programme for him; no doubt he will favour us with his preliminary impressions before we separate, and you will have time to tell him personally something of what you have to put into his hands.

Office and Staff.—It is proposed to bring these to your notice in order to consider whether we should not alter our present arrangements; preparatory private enquiries have met with a favourable reception, and I hope you will soon be able to make a start with a proper Head-quarter Office and a small Staff. The present method is not fair to the Secretary nor of a sufficiently permanent or systematic nature. In any case Mr. Anstead will have an Office and Staff, and it will make for both economy and efficiency if he and our Secretary can maintain one central office between them. There can be no doubt that our Scientific Officer and the Secretary ought to be located together, as we have no time to waste in correspondence, and in addition during Mr. Anstead's tours it will be a great help to him to be able to leave his office in charge of some one in authority.

Imperial Preference.—This subject was sent to local Associations for consideration. I hope you have come prepared to give your opinions.

New Member.—We have had the pleasure of adding South Travancore to the Roll this year, which I believe leaves no Association outside our ranks except the North Mysore Native Planters' Association (I think that is their correct name) who do not now interest themselves in the work of the U. P. A., a regrettable fact which I see no present chance of getting over, as their constitution differs from that of most of our subscribing Associations and a subscription levied on their total acreage would probably be prohibitive.

Labour and Emigration.—This is now undoubtedly the greatest question of the day. Foreign competition shows no signs of falling off, and our own local demand has become so enormous that old established connections are being seriously interfered with and there is some danger of Club Law becoming the rule. It has been said and even written that we should let this most dangerous subject alone as it contains what has been called "the germ of disruption."

Gentlemen, if any considerable number in any body is going to take up such an uncompromising attitude on a single subject that combined action becomes utterly impossible it stands to reason that there is an end of any "United Association;" but I refuse to believe that we cannot find any way out of this trouble without "disruption." If we go into it reasonably and as unselfishly as is humanly possible with the intention of finding out what course can be adopted for the greatest good of the greatest number without injuring any section, and if we all endeavour to avoid causing unnecessary irritation in our discussions, I am sure that even if we cannot clear away all cause for friction we ought anyhow to be able to make some suggestions which, if honourably carried out, can minimise it.

I admit that it is a very big matter and one not likely to be settled all at once, the great distances and the differing legal and other systems will always cause some difficulties, but it will be an advance if we can this year establish a *modus vivendi* (which certainly cannot be said to exist now) and lay foundations for more permanent agreement or even means of enforcement of justice between disputants.

You appointed a Committee last year, and their Report will come before you for consideration. It is, as they admit, disappointing; but I do not see that they could have done more on their instructions and with the material at their disposal. They have dealt only, or at all events principally, with the foreign competition, which is all they were told to do, but I think we must recognise that while we all have to fight against this there is far more real danger in India itself; coolies can desert from one District to another and cause just as much trouble as if they went over seas, and from statements

made they appear to be doing it pretty freely. I venture to disagree with our Committee in one detail : I think we ought to be able to evolve some method of using the Discharge Note.

My own opinion remains unchanged, as it has done for some years now, that scattered as we are under five different Governments, nothing short of uniform Legislation will be really satisfactory, and I unhesitatingly recommend that as no other is available or likely to become available we should all give Act I of 1903 a trial. I have never been a blind supporter of Governments in all their dealings with us, nor do I now feel any desire to smooth the way one-sidedly for any of them when we disagree, but it does seem to me that the Government of India have some logic on their side when they say that we have not generally given their Act a trial and therefore refuse us any other form of Legislation. Amendment is absolutely necessary in more directions than one, but we do not seem at present to have any definite proposals to put forward backed by such arguments as a Government may listen to. Legislation has become necessary not only to punish offenders, but also to establish, as far as possible a uniform basis for recruiting methods and to indicate lines, if it does nothing more, for adjusting disputes.

Another idea for which I ask your consideration is—Are we tapping all available supplies? It appears probable that those who can afford to pay so much higher wages than others could attract coolies from new Districts, and we might reasonably ask Government to give some small assistance to a Labour Commissioner or Committee, in searching out congested parts whence a new supply might be obtained.

I think it will hardly be necessary to insist on the advisability of making all possible use of any labour-saving devices we can find or invent ; it may, however, be well to warn all about the future again, Messrs. Acworth and Sprott have done so before, and all they said has been fully justified. There are still some Districts which at present find it possible to get enough coolies with little more trouble than they had before, and some seem to hope that this happy state of things will continue. To them I say, "Your turn will come." The growth of demand may seem slow but the annual rate of increase is advancing rapidly, and the supply shows no signs of elasticity, indeed with the high rates now ruling it is likely to shrink, as coolies can very soon amass enough to retire on.

Our Publications.—The *Planters' Chronicle* continues to circulate freely, and I wish to call your attention to it in two ways ; before doing so I must just mention that we expect to have contributions from Mr. Anstead every month which will be interesting to all, and should draw some more outside subscribers on to our list.

The first point is that I do not think the bound volumes are appreciated as they should be by all who take any interest in Planting affairs beyond the boundaries of their own Estates. Taken with the Books of Proceedings they form a complete and valuable record, compact and properly indexed. The second point is that amongst ourselves the Monthly form might be a great convenience. Short Advertisements are admitted at very cheap rates (to members of Associations) and will be very useful if it is understood that they are in general use ; we very often want to buy or sell seeds, plants, horses or small personal properties, and cases have been known of men going far away to deal when a neighbour was ready to meet them ; besides we could gazette defaulters, advertise small Meetings or otherwise use this means of communication.

With the Books of Proceedings we have a good deal of trouble, and have to charge a rather stiff price to those intelligent members who demand them. Hitherto only one Association has been so active and intelligent as to take a copy for every member, an example which should be followed by all ; I believe that at least two others have declared their intention of doing the same. You will readily understand that the more subscribers we get the cheaper the Books will be ; as we do not aim at making them a source of income yet.

His Excellency the Viceroy of India is expected to visit the South in the Winter. In spite of the small snub inflicted on us by the Government of India, perhaps as I have admitted by my negligence, I do not think that we need add to his labours by presenting any petitions out of the ordinary channels. It might, however, be only courteous to take a share in the general welcome.

Gentlemen, you will be glad to hear that I have only one last subject to touch on, it is one more easy to deal with than any of the others as I can speak assuredly from my own experience and without hesitation. My best thanks and yours are due to the Council and especially to Mr. Richardson, our Vice-Chairman, for the great assistance which I have received from them officially and in private correspondence, also to the Secretary, Mr. Ormerod, for the ungrudging way in which he has submitted to an unusual pressure of work; sometimes he must have thought that I was sitting on the button instead of merely pressing it, but he has never told me so.

The Planting Member.

Speaking later as "Planting Member" of the Legislative Council of Fort St. George, Mr. Hamilton said he had only recently been appointed Planting Member of Council, and, consequently, he had no work to report upon. All that he wished to do was to thank the Association for the honour done him and to tell them that no effort would be wanting on his part to forward Planting interests.

The Scientific Officer's Address.

Mr. R. D. ANSTEAD, B.A., Scientific Officer to the U. P. A. S. I., delivered a technical address, observing:—

It gives me the greatest pleasure to be present at this Meeting to-day and to have an opportunity of addressing you and taking part in your discussions upon Agricultural matters. When opening the 7th International Congress of Applied Chemistry held in London last May, H. R. H. the Prince of Wales said:—"Does not experience warn us that the Rule of Thumb is dead and that the Rule of Science has taken its place; that to-day we cannot be satisfied with the crude methods which were sufficient for our forefathers, and that those great industries which do not keep abreast of the advance of science must surely and rapidly decline?" This applies no less to the great industry of Planting than it does to other industries, and I am glad that the U. P. A. S. I. has recognised the value which Science can be to Agriculture, and has obtained the services of a Scientific Officer, however unworthy he may be. I consider myself fortunate in being chosen to initiate this step forward in your progress, and I hope that the beginning which has been made this year may lead to big things in the future. I would ask you to bear in mind that my work amongst you must cover a very large area, nearly the whole of South India, and so it will probably be necessary to concentrate upon certain definite problems, and much that should be done will necessarily remain undone, owing to lack of time. I have to thank you as a body for the kind welcome you have held out to me. I have been amongst you for such a short time that I have found it hard to choose a suitable subject upon which to address you to-day, but during the few short tours I have been able to make one subject has occurred to me as being of importance and interest to you, *viz.*,

THE USE OF LEGUMINOUS CROPS AS GREEN DRESSINGS.

No fact in plant physiology has been more firmly established than that all plants must have nitrogen in order to thrive. The atmosphere contains about 21 per cent. of this essential nitrogen in the form of gas, but, under normal conditions, plants are unable to utilise this and must obtain it, through the medium of their roots, from the soil in solution in some highly organised form. The last stage in the decay of nitrogenous matter from plants and animals is that of the nitrate formed in the soil, and this is the first stage in which the dead matter is taken up afresh by the growing plant and recreated into the substance of living matter. "The last legacy of death is the first food of life."

The relation of nitrogen to plant growth was established by Dr. Pugh at the Rothamsted Experiment Station, in England, in 1857, by a series of most elaborate and careful experiments. These experiments were later repeated at Rothamsted, and also by Boussingault, in a somewhat different way. By careful chemical analysis of soils and manures, and of the crops grown, a kind of balance-sheet was drawn up, showing on the one side the amount of nitrogen supplied, and on the other the amount used by the crop and left behind in the soil. In the case of ordinary crops these two sides of the account were found to balance one another, but whenever a leguminous crop, such as clover, beans, peas, etc., was grown, either by itself, or in rotation with other crops, there was a distinct gain of nitrogen at the end over the total amount supplied by soil or manure. It was, in consequence, at first thought that leguminous plants were an exception to the general rule and could absorb nitrogen directly from the air. It was soon discovered, however, that this was not the case, but that such plants accumulated nitrogen by means of bacteria which found a home in nodules produced on the roots.

In 1886, Hellriegel, in Germany, and the late Professor Marshall Ward, in England, demonstrated the fact that the nodules which are found on the roots of leguminous plants contain colonies of bacteria which have the power to absorb nitrogen from the air and convert it into a form in which it can be absorbed by the roots of ordinary plants. This was the result of a long series of most careful experiments. Hellriegel cultivated a variety of cereal and leguminous plants in nitrogen-free soil, watering them with solutions of nutritive salts of known composition. He found that in the case of the cereals the yield was always proportionate to the amount of nitrogen supplied, and that they would not grow at all if nitrogen was entirely withheld. In the case of leguminous plants, however, he found that they could flourish when no nitrogen at all was supplied in solution, and whenever this was the treatment the roots were found to be covered with nodules, and the greater the number of the nodules, the more vigorous the plant. These nodules were found to be the home of certain bacteria which absorb nitrogen from the air in the soil cavities and transform it into nitrogenous plant food which can be assimilated by the legume, the combination of bacteria and legume being one of mutual assistance, or symbiotic.

The fact that leguminous plants obtain from the air, an inexhaustible and gratuitous source, the nitrogen necessary for their development, places them in an important position among cultivated crops. Varying with the species grown, the nature of the soil and the climatic conditions, a crop of leguminous plants fixes considerable quantities of nitrogen, obtained from the air in the soil, quantities varying from 53 to 134 lbs. per acre. If such a leguminous crop is dug in green, the amount of nitrogen resulting from it is equivalent to a good dressing of nitrogenous manure, such as nitrate of soda, saltpetre, or sulphate of ammonia. The practical application of this to the cultivation of such crops as coffee, tea and rubber is not difficult to see. If, instead of growing ordinary weeds, a leguminous crop of some sort is grown between the rows of the staple crop and this is from time to time dug in, or used as a mulch, an application of nitrogen is constantly given to the soil. In addition to this, other distinct advantages are obtained from such a practice, which may be briefly summarised. Large quantities of soluble plant food are lost in percolating drainage water from bare soils, and by growing a covering crop the greater part of this is absorbed and returned. A covering crop reduces the surface wash, especially a crop of some herbaceous plant. It protects the soil from baking by the sun and regulates the moisture condition, so that bacterial activity, responsible for the liberation of plant foods, is kept at a maximum. Finally, troublesome weeds are kept down, and the weeding bill is reduced. For these reasons, then, it is advisable to keep a leguminous crop growing between the rows of the staple crop, and wherever in fact in the ordinary way weeds will grow.

The best legume to grow is a matter for experiment. Many have been recommended, such as *Erythrina*, *Albizia*, *Tephrosia*, *Mucuna*, and particularly *Crotalaria*. *Crotalaria striata* is a most useful plant, it is used in Ceylon and other countries and is being tried on some estates in Southern India. Leguminous plants are quite common, and the local flora of any district will

be found to contain many species of this natural order of plants, and, possibly, it will be found easier to establish a local plant than an introduced one. For tea and coffee a plant is needed which will grow rapidly, and make a dense cover not reaching a height of more than about 2 ft., and one which produces an abundant crop of root nodules, and which is not subject to attack by the diseases to which the staple crop is liable. A herbaceous plant is preferable to a shrub, as the latter is apt to grow too tall, and, moreover, constant cutting produces big stumps, which become a nuisance in the cultivation. A few plants, which I have found during my recent tour in the Nilgiris and elsewhere, and which appear to be suitable for the purpose, are exhibited for your inspection. I hope to have these named at an early date, and I should like to see organised experiments conducted with them. A great advantage of this method of cultivation is that continual weeding, with its attendant expense, will be done away with. Once the leguminous crop is established, all that is necessary is to cut it down, and, possibly, to re-sow it occasionally, and this need not be an expensive matter. It will probably be found a good plan to sow the seed at the beginning of rainy weather and cut it down before the dry season, using the material obtained as a mulch to protect the soil surface during drought. The establishment of such a leguminous crop in the fields should not prove a very difficult matter. At first, no doubt, it will be necessary to weed it a few times, but once it is established it will keep other weeds down. It would be first sown after a clean weeding. On many estates I notice that leguminous plants are growing among the other weeds; in such cases the coolies should be taught, when weeding, to leave these untouched. By this method, and by sowing seed thickly, it will not take more than a year or two to establish a leguminous crop.

That planters should adopt a suggestion of this kind without carefully considering its merits and possibilities is neither expected nor desirable, but if every estate would conduct an experiment with a leguminous crop, keeping a careful record of the cost as compared with clean-weeded cultivation, and a record of the crop obtained and the general health of the staple under each method, I have little doubt that the benefit of the method which I have had the honour to outline will quickly be recognised.

Laboratory, etc., for the Scientific Officer.

Professor RUDOLF, of the Indian Institute of Science, made the following speech:—

"MR. CHAIRMAN AND GENTLEMEN,—Some months ago your Secretary, Mr. Ormerod, approached Dr. Travers regarding the matter of the possibility of the Indian Institute of Science being able to provide working accommodation for your Scientific Officer; and it is in connection with this question that I have accepted your kind invitation to be present at your deliberations this morning. I regret that the Director of the Indian Institute of Science is not able to be present, as he is now in England, and so the task of explaining how happy the Institute will be to co-operate with the Planters' Association in the matter of their Scientific Officer unfortunately falls to less able hands, but I shall do my best to explain the directions in which I think the Institute could assist. At the very commencement I would say that the Institute is not disinterested in this matter, as, while it is the province of the Institute to concern itself with matters that relate to the development of industries in this country and the application of science thereto, nevertheless, after meeting Mr. Anstead and hearing his lecture to-day, I feel that we shall be great gainers if we can arrange to provide working accommodation for Mr. Anstead in our laboratories. I would ask you to remember that any remarks which I make now are made without the sanction of the Council of the Institute, and that I am merely giving you the outline of a scheme which could be placed before them, and which, I think, would meet with the favourable consideration of the members of our Council.

"The question of the advisability of the establishment of a Chair of Agriculture at the Indian Institute of Science will shortly be taken up, and should this idea mature, it might be a convenience to all concerned if it could be arranged that your Scientific Officer should be provided with the necessary

laboratory accommodation at the Institute, where it might be possible for him to work in co-operation with our department of Agriculture. Formerly it seemed as if the various branches of Science were widely separated, but the lines of demarcation are growing fainter, and experience has shown that no scientific worker can, as a rule, produce the best results unless he can collaborate with workers in allied branches of knowledge. Thus it might happen, if your Scientific Officer should be working on Insecticides, it would be a convenience for him to call in the aid of our Department of Applied Chemistry, where the chemical products he wanted could be manufactured to his requirements; or again, should he be studying the action of electricity on plant life, it might be advantageous for him to have at his disposal the facilities that our department of Electro-technics could offer. In the case of abstruse questions connected with the chemistry of plant growth, it might also happen that a chemist of such eminence as Dr. Travers would be able to give his assistance in the form of advice. The staff of the Institute could learn much from a gentleman of such experience as your Scientific Officer. Again, it is hoped that the right intellectual atmosphere for scientific research will develop at the Institute, and, so stimulated, it may happen that its workers will be able to accomplish more than if they carried on their investigations alone. It would be for Dr. Anstead to decide what working accommodation he will require and for the Council of the Institute to say what they are prepared to do; we can only hope that it may be possible for us to meet his wishes in entirety. Some of the Institute buildings are at present under construction, but the subject of our Agricultural department is in a fluid state, and it would be convenient to the Institute if Dr. Anstead and the Planters' Association could let us have their views in the matter within the next couple of months, as, naturally, it is much easier to build in view of a definite object than to adapt existing accommodation to suit special requirements. I understand from what I have heard that your Scientific Officer will be provided with a grant for apparatus and the expenses necessary for the conduct of his investigations.

"I should like to mention one connection in which our Department of Applied Chemistry hopes to co-operate with horticultural experiments; it is in the investigation of the commercial possibilities of the preparation of perfumes from plants suitable for growth in various parts of Southern India. The idea of such a research had already occurred to Mr. Krumbiegel, the Economic Botanist of the Mysore State, who has long had in mind the possibilities of Southern India for the cultivation of perfume-yielding members of the vegetable kingdom. I myself have looked into the matter from the manufacturing side and have visited perfume factories, both in the United States and in the south of France, and have come to the conclusion that if the raw materials can be grown cheaply, the distillation and extraction of the essential oils and extracts used in the manufacture of perfumes might form an excellent side business for South Indian Planters. The subject is not complicated by any question of distance or freight, as in almost all cases the value of the finished product is great and quite out of proportion to its bulk or weight. Mr. Krumbiegel hopes to arrange to grow the raw materials, and I am ordering out the necessary small scale plant for distillation and extraction; this is a good example of how two branches of applied science are able to co-operate together with hope of advantage.

"In conclusion, I would say how greatly I have enjoyed the extremely instructive lecture just delivered by your Scientific Officer, and would assure the Planters' Association of the great pleasure it will give us if it can be arranged that Dr. Anstead shall carry on his investigations at the Indian Institute of Science, when our buildings are ready, which cannot be until some two years hence."

At a later stage of the Proceedings it was resolved to ask the Government of Mysore for permission for the Scientific Officer to make use, for a time, of the Laboratory in charge of the Mycologist and Entomologist to that Government (Dr. Leslie Coleman), as accommodation in the Indian Institute of Science is unlikely to be available until at least a couple of years hence.

Arskere-Mangalore Railway Project and Renard Road Train.

On Tuesday morning the Hon'ble Mr. Stuart Fraser was asked to open the Proceedings, which he did in a brief speech, in the course of which he said that when he had accepted the invitation to be present it occurred to him that they might like to hear what the local administration in Coorg had been doing in the matter of the prospective Railway from Mysore to the Coast. He knew that Planters would not be satisfied till they got the Railway. Personally, much as he was in favour of the Railway, he did not think there was any possibility of getting it within the next twenty years. He thought that if, in the meanwhile, they could get the Renard Road train, it would serve their turn; it would create traffic and would make the Railway possible. Accordingly, in June, 1908, he wrote to Messrs Best and Co. about a trial run through Coorg of the Renard Road train. At first they promised to send a train, but subsequently it was discovered that of the two trains in the country one was wanted in Calcutta and the other in Bombay. In the meantime, that is in February last, the Renard Road train was tried on the Gauhati-Shillong Ghaut Road, in Assam. From reports of the trial, copies of which had been sent him by the Railway Board, it appeared that the Gauhati-Shillong Road was about 64 miles long, with stretches of gradient of 1 in 18 and 1 in 25, and that the average time occupied was 19 hrs. 35 mins. on the journey up to Shillong and 10 hrs. 24 mins. down to Gauhati, and that the average load paying freight was 570 tons. Encouraged by these results on a road presenting similar difficulties to the Coorg-Tellicherry Road, he thought he was justified in addressing the Agent of the Madras and Southern Mahratta Railway informally in March last, with a view to his investigating the prospects as a feeder to the Railway. There had been some talk in Coorg about doing the thing privately, but it was obviously better to have the project taken up by a big financial body, like a Railway Company, which kept a large staff to fall back upon, and also could supply the rolling-stock, &c., better than a private Company. The Agent of the M. and S. M. Railway deputed a special traffic official to report on the goods and passenger prospects. He (Mr. Fraser) had seen the Report that had been made in June, suggesting a through service between Mysore and Tellicherry *via* Hunsur, Siddapur, Amatti and Virajpet with branch services from Siddapur to Mercara and from Amatti to Polih-tta. It was impossible for him to say what view would be taken by the Directors of the M. and S. M. Railway, but in view of the questions that might be anticipated from the U. P. A. S. I. on this subject, he was permitted to say that the Report was, on the face of it, encouraging as to the chances of a Renard Road train being run successful over these routes.

The Planters' Benevolent Fund,

The Planters' Benevolent Fund was inaugurated with the following opening speech by Mr. J. A. RICHARDSON:—

GENTLEMEN,—This is a subject which requires no words of recommendation from me. It is one which calls for the attention of every Planter in Southern India, and I trust it will have their unanimous support financially. I was taken rather unawares when I was asked to take up this matter, and had I had more notice would have been better prepared. I must point out that this is not an insurance; it is purely a fund to relieve temporarily cases of need or distress, such as Planters who, through no fault of their own, may be thrown out of employment, or widows and children who may be suddenly left in very poor circumstances, which I am sorry to say, is very often the case. Planters, I am glad to say, are noted for their generosity and are always ready to put their hands in their pockets to relieve cases of distress, but there are many instances which never come to light where a fund of this sort would be of the greatest assistance. The Fund would be under the control of the United Planters' Association, and the Council of the U. P. A. would form the Executive. The subscription I would propose would not be a heavy tax on any one, being only Rs.10 a year. These would be collected through the District Associations and remitted to the U. P. A. S. I. With one or two

slight alterations, I do not think we could do better than adopt the Rules and Constitution of the Ceylon Planters' Benevolent Fund and I would now ask the Chairman to let us go into Committee, and I will read you their Rules with the slight alterations I propose, and would ask you to give them your careful attention and bring up any point that strikes you as being unsuitable or as wanting amending.

The Rules were fully discussed in Committee and the following Resolution was adopted:—

"That in view of the great benefits a Benevolent Fund would confer on the whole Planting community, this Association recommends the starting of a Benevolent Fund for the Planters of Southern India on the lines drawn up by this Meeting, and that the Secretaries of local District Associations be requested to collect subscriptions and forward such to the Secretary of the U. P. A. S. I."

The Chairman's Closing Speech.

The Hon'ble Mr. J. G. HAMILTON, in bringing the proceedings to a close, thanked the delegates very much for the unusually cordial way in which they had acknowledged his attempts to serve them during the past year. He was particularly grateful to Mr. Malcolm for his reference to Mrs. Hamilton's illness, but he was glad to say that she was a little better. Mr. Malcolm had rather alarmed him by the high estimate he had placed on his services, especially as his work was not yet done; but he had still to go on working. He desired in this connection to thank them again for the honour they had done him of electing him again Planting Member of Council should he be eligible to serve on the new Council. He trusted that they had not formed too high an estimate of the work that he would be able to do; one thing, however, he could safely promise, and that was that whatever was done would be his best.

It had been his good fortune to preside over the biggest Meeting that had been held since 1899, and he was glad to say that it had given him every assistance in bringing things as far forward as they could. It was very pleasant to find so many new delegates and also a few returning after short absences. But he could hardly help feeling some regret for the old delegates who had passed away—who had gone Home or even farther still, like the late Mr. Lambert, a colleague who had been a regular attendant at the earlier Meetings and one who was always keenly interested in the Association and its affairs. He was sure that not only the Coorg Planters, but the general body of Planters, felt sincerely the loss caused by his death.

It was the custom for the Chairman in his Farewell Address to thank all those who had benefitted them or had worked for them during the year or at these Meetings. He had accordingly to thank the Madras Government for the prompt and kindly way in which they had met their request for a Scientific Officer, and for the class of man they had sent. (Cheers). They had also, as far as the negotiations had gone already, continued to treat the Association in a liberal way and were inclined to meet all its requests. The Hon'ble Mr. Fraser, the British Resident, had been good enough to join them one day and to give them, as far as he could, information about a subject in which many took an interest. Professor Rudolf had given a promise of substantial help, and as they all knew they had friends in the Press who were always willing to back them up, and lastly their thanks were due to Mr. Bremner, whose usual good temper had not been disturbed at all during the Proceedings.

A review of their programme of business gave rise to mixed feelings. Two distinct steps forward had been taken; first, in the establishment of the Planters' Benevolent Fund, proposed by Mr. Richardson, which filled a gap existing throughout their life as a united body; and, secondly, in deciding to have a central office which would serve as a home for the Association. As regards the Labour question, he must admit that there were immense difficulties still in the way of settling something likely to suit everybody, and one must to a certain extent regret not being able to come to a unanimous decision. He thought this was quite impossible, but he had to congratulate all on the good

tone that had prevailed throughout the Proceedings. Mr. Malcolm had alluded to a report concerning some whisper of disruption; but he did not think that any among them had caught it. Mr. Brock had brought forward a large scheme for the consideration of the Meeting. It must have cost him an immense amount of labour and time to prepare the matter, and he desired on behalf of all the delegates to thank Mr. Brock for the great trouble that he had taken in the matter. He trusted that both the Resolutions which had been sent back for discussion by District Associations would be well threshed out.

He had one small personal explanation to make; he had considered seriously whether he ought to make it. It referred to a letter which appeared in the *Madras Mail* practically suggesting that he was taking credit which should have been given to a deceased friend. With the permission of the delegates he would sketch as briefly as he could the history of this Association from the beginning, as a slight slip had been made in the newspapers the other day regarding dates. He was not the leader in 1893-94, but earlier perhaps he was. The facts were as follow:—Somewhere about 1891—he would not answer without references for a year on either side—he was appointed Honorary Secretary of the South Mysore Planters' Association. The first thing he did was to go back through the past records and history of the Association. In the course of his reading he found out that while many Associations held similar views, anyhow on several points, there seemed to be no attempt to take united action. It seemed to him that each was fighting for his own hand with neither help from his neighbour nor consideration for him. It very soon struck him that it might be possible to draw them all together as had since been done into a central body. He accordingly invited the co-operation of Honorary Secretaries of other Associations and from individual Planters. From the very first it was most strongly supported by some whose names he would mention. They were Mr. Geo. Romilly, Mr. H. M. Knight and Mr. F. P. Stopford, who was not a Planter at the time, but who had been a Planter and who was keenly interested in Planting affairs. There were others, but he would not mention their names, as he could not recollect the part taken by them in the matter. A few thought it a good idea, but impracticable; while a large body seemed to *pooh-pooh* the whole thing as chimerical. The four who formed the inner ring exchanged views intermittently during the year, and when a certain occasion arose to call for immediate action it was felt that the time had come to put their views forward publicly once more. Mr. Romilly was then the actual leader, but owing to a domestic affliction he was not able, or rather he was unwilling, to take a prominent part and he asked a dear old friend, Mr. Digby Brett, to carry on that work. They all knew how ably he had carried on that work during the first two years. He felt obliged to make this explanation, because he had been referred to more than once in the Press as the originator of the U. P. A. S. I., and was now told that the credit belonged to Mr. Brett and not to him. But Mr. Brett, who knew, was not able to answer for himself.

Election of Office-bearers.

The following officers were elected for the year 1909-10:—

Chairman.—Mr. J. A. RICHARDSON (Travancore).

Vice-Chairman.—Mr. BERNARD MALCOLM (Wynaad).

Secretary.—Mr. HARRY ORMEROD.

The Hon'ble Mr. J. G. HAMILTON was formally chosen as "Planting Member" of the Legislative Council of Fort St. George.

Messrs. RONALDSON AND RONALDSON, of Madras, were re-appointed Auditors.

Memo. of Resolutions.**NEW RULE No. 7.**

1. That ex-Chairmen, ex-Vice-Chairmen and ex-Planting Members of Council may be allowed to attend Meetings, to propose Resolutions or amendments, and to vote, having one vote each; and do in that case pay an annual subscription of Rs.15; and that while in India they be entitled also to receive the circulars of the Association upon intimating their wish to the Secretary.—*Carried.*

THE "PLANTING MEMBER" OF COUNCIL.

2. That the Member of Council be appointed by the United Planters' Association, and that the election be in terms asked by Government.—*Carried.*

RULE No. 2 AMENDED.

3. That Rule 2 be altered by the substitution of the words "July or August" for "August or September."—*Carried.*

LIQUOR SHOPS IN THE VICINITY OF ESTATES.

4. That the Secretary be instructed to convey the thanks of this Association to the Government of H. H. the Maharajah of Travancore for the closing of several liquor shops in the Planting Districts of Travancore.—*Carried.*

5. That this Association, while recognizing the assistance afforded by Governments in removing liquor shops from the vicinity of Estates when the ill-effects of such are brought to their notice, considers that, in the interests of Planting Districts, and for the better protection of the health of Estate labour, the various Governments should be asked to disallow the opening of any liquor shop in a Planting District, except in a recognised public market without consulting the Planting Association of the district concerned.—*Carried.*

PROPOSED PEST ACT.

6. That in view of the Scientific Officer's remarks District Associations be asked to put the matter of a Pest Act before their Members immediately.—*Carried.*

LABOUR RECRUITING.

[7. That the Meeting views with alarm those methods of so-called recruiting which have been brought to light so prominently in what is now known as the Coonoor Crimping Case, affirms that such methods are inimical to general Planting interests, and to support these views desires that the case be taken to the High Court with a view to obtaining a ruling as to whether this Section is intended to apply to similar cases of crimping.—*Lost.*]

TELEGRAMS.

8. That this Association add its protest to that of the various Chambers of Commerce and Trades Associations against the present spirit displayed by the Telegraph Department in withholding the delivery of telegrams from perfectly well-known addresses; and that it protest also against the present insanitary method of closing the envelopes containing messages.—*Carried.*

THE PROPOSED COFFEE CESS.

9. That the U. P. A. S. I. write to the Government of India, giving greater prominence to the *co-operative* intentions of the Planters of Southern India than was done in the Memorial, and asking Government to re-consider their decision in the light of this clearer information.—*Carried.*

FEEDER ROADS ON THE SHEVAROYS.

10. That this Association address the Government of Madras, asking them to provide funds to finish the work on the Yercaud Feeder Roads.—*Carried.*

ROADS AND COMMUNICATIONS.

11. That the U. P. A. S. I. urge on the Madras District Board the necessity of constructing the Theni Bridge as early as possible, otherwise there is little likelihood of the Bridge being available for traffic before the coming N.-E. monsoon.

That they also draw the attention of the Board to the disgraceful state of the Ghât road between Kuvarnooth and Kumli, which, owing to want of attention during the present S.-W. monsoon, is practically unfit for traffic.—*Carried.*

12. That this Association bring to the notice of the Government the urgent necessity for prompt action in the matter of repairing or renewing the Pier at Calicut. That the attention of the Association has been called to the recommendations made by the Committee appointed, consisting of Messrs. Knapp, Boas and Sherman, which has appeared in the Press. That the Association considers the report does not fully or fairly represent the true position; and trusts that the matter will receive the immediate attention of the Government, who, it is hoped, will cause an exhaustive enquiry to be made embracing all the interests concerned, including the Planting Associations of the Nilgiris, Shevaroy, the Wynad, and the Anamalais, and the Nelliampathies district, all of which districts ship a very large quantity of valuable produce, including Tea, Coffee and Pepper, the greater portion of which passes over the Pier.—*Carried.*

GOVERNMENT PURCHASES OF CINCHONA.

13. That Government be requested to fix a minimum price of one anna per unit in the purchase of Cinchona Bark in India.—*Carried.*

THE RENARD ROAD TRAIN.

14. That Captain Lethbridge be thanked for his letter on the subject of the Renard Road Train. This question is now under consideration of the U. P. A. S. I., and the result will be communicated to him in due course and the Secretary will be instructed to render any assistance in his power to the Manager of the Renard (India) Transport Corporation on his arrival in Bangalore.—*Carried.*

COFFEE CURING AND FREIGHTS.

15. That Firms who undertake the Curing and Shipping of Coffee be approached, with a view to ascertaining whether the charges for Curing and Freights cannot be materially reduced.—*Carried.*

LABOUR MATTERS.

16. That this Meeting has heard and considered the able arguments for and against the motion before it. Considering the fact that several delegates have come with definite instructions to oppose the introduction of Act I of 1903 and others remain still unconvinced, the Meeting is not prepared at the present stage to vote, knowing that whichever way the balance may fall an appreciable minority will have an unwelcome course forced upon it.

The Meeting is of opinion that, foreseeing an aggravation of existing dangers, District Associations should, after a serious and careful study of all that has been said during the debate and the Act itself, record their opinions before the end of November, and that the Council should be and they hereby are empowered to take action upon any clear line indicated by the votes of not less than $\frac{2}{3}$ of the total votes admitted by the U. P. A. S. I.—*Carried.*

[N.B.—The above Resolution superseded the following propositions:—

(a) That the Report of the Labour Committee be adopted.

(b) That this Association urge upon the respective Governments the simultaneous introduction of Act I of 1903 or such Acts based on the same principles as Native States may adopt in all Planting and Recruiting Districts].

TEA DUTY IN CEYLON AND INDIA.

17. That in view of this Association's sympathy with the arguments emanating from Ceylon upholding the Ceylon Import Duty on Tea, the Government of India be again approached with a request that the Indian Import Duty on Tea be raised to 4 annas a pound.—*Carried.*

LABOUR RECRUITING.

18. That whereas it has become absolutely necessary to regulate the conditions of recruiting for Labour in Southern India both for plantation work in India and for emigrant labour, the delegates at this Meeting lay Mr. Brock's remarks and his scheme before their Associations and ascertain their views thereon, reporting to the Secretary of this Association on the matter by the end of November; and that after this the views of the various Associations be circulated amongst the Members of the Council.—*Carried.*

[N.B.—The above Resolution superseded the following propositions :—

- (a) That whereas it has become absolutely necessary to regulate the conditions of Recruiting for Labour in Southern India both for Plantation work in India and Emigrant Labour, this Association memorialise the various Governments to pass a law to ameliorate the existing situation for both the Recruiter and the recruited on the lines drawn up by this Association.
- (b) That the delegates at this Meeting lay Mr. Brock's remarks, and his scheme before their Associations and ascertain their views thereon.
- (c) That this Association, viewing with alarm the many abuses that have arisen from the present methods of recruiting for Labour in South India, request the Government of India to appoint a Commissioner to enquire into the conditions of Labour Recruiting for Plantation work in South India and for Emigration, with a view to legislation on the subject.—*Withdrawn*].

THEFTS OF TEA.

19. That in view of the increase of thefts of Tea in the Tea Districts of South India, this Association do address the Government with the object of enquiring whether they could legislate, on the lines of Section 4 of the Coffee-stealing Act, to prevent the sale of Tea by employees on estates other than those authorised to sell the same.—*Carried.*

DELAYED MAILS.

20. That the attention of Government be drawn to the notice recently issued by the Superintendent of Post Offices, Madura Division, announcing that the state of the road between Ammanayakanur and the foot of the Peermad Ghât is unsafe for the transmission of mails and that parcels and registered articles will only be carried by day, thus causing serious delay and inconvenience.—*Carried.*

PREVENTION OF CATTLE DISEASE.

21. That this Association thank the various Governments concerned for the help they have given in the matter of the Prevention of Cattle Disease and urge on local Associations and individual Planters the necessity of reporting all outbreaks of rinderpest and of giving officials every assistance in their power.—*Carried.*

NON-SERVICE OF WARRANTS, &c.

22. That as there is continued and growing dissatisfaction in the Planting Districts of South India due to the frequent non-service of warrants and summonses by the Process Servers and Police, the Association address the Government of Madras, and request that the Government draw the attention of District Officers to the unsatisfactory position, and pass such orders as they may think necessary to ensure greater efficiency in this matter.—*Carried.*

PROPOSED PLANTERS' BENEVOLENT FUND.

23. That, in view of the great benefits a Benevolent Fund would confer on the whole Planting Community, this Association recommend the starting of a Benevolent Fund for Planters of Southern India, on the lines drawn up by this Meeting, and that the Secretaries of local District Associations be requested to collect subscriptions and forward such to the Secretary, U. P. A. S. I.—*Carried.*

Southern Indian Planters' Benevolent Fund.

DRAFT RULES.

1. That the Secretary of any District Association with the sanction of his Association or Committee give temporary relief in case of emergency.
2. Particulars of any case for assistance shall be forwarded to the Secretary of the District Association concerned with Form A filled in, which must be vouched for by two friends of the applicant, to whom he must be personally known. Such information will be circulated to the U. P. A. Council for their sanction.
3. The following shall be entitled to assistance from the Fund :—
 - (a) Proprietors of Estates, on payment of an annual subscription of Rs.10 to the Benevolent Fund.
 - (b) Managers, Superintendents, and Assistants of European Recruiters for Estates in Southern India and European Assistants of the U. P. A. S. I. on payment of an annual subscription of Rs.10 to the Benevolent Fund.
 - (c) A donor of Rs.200 to the Benevolent Fund, or an annual subscriber of Rs.40 for 5 years, will be welcome as a Patron, and have a copy of the Report of the work and Statement of Accounts of the Fund rendered to him, and in case of such donor being qualified under A or B, he or his family shall be entitled to assistance from the Fund if in need of such.

Should such sum of Rs.200 be subscribed by the Proprietor of an Estate, such Proprietor not being a Company, on behalf of the Estate then the Superintendent shall be entitled to assistance from this Fund if in need of such during the life and ownership of the donor.

 - (d) Members of the Planting Community or their families other than those classified under A. B. C. above, may receive assistance from the Fund only by the unanimous consent of not less than a quorum of the Committee of the District Association.
4. The U. P. A. Council have the right to refuse any subscription.

The following rules are for the guidance of the U. P. A. Council :—

- (a) No assistance to be given to any Planter or any member of his family unless he has subscribed under the Regulations mentioned in 3 above, except as provided for in 3 (D).
- (b) No Planter or member of his family to be admitted as an applicant for assistance until form A (copy annexed) is filled up and vouched for by two friends.
- (c) No funds to be ordinarily given to anyone who is or has been within the twelve months preceding the application addicted to intemperance; relief may be extended to such an one, his widow, wife, or children, if the U. P. A. Council consider them worthy of assistance, but the Fund is not established to relieve such cases.

- (d) The fund is not intended to provide an annual income for anyone, but to give temporary assistance in deserving cases in time of sickness as well as from impecuniosity brought about by such or by other causes to be satisfactorily explained, when the Council may vote a sum towards the passage and or change necessary for the applicant. The Fund shall also be available to provide a widow, wife, or children, or any one dependent on the applicant, with means to return to their homes and for their support for a reasonable time.
- (e) It shall, however, be competent for anyone in distress to apply for further relief, and the Council may render such assistance if the funds are sufficient to meet the deserving cases of first applicants.
- (f) The Council may make temporary loans to distressed Planters or those dependent on them, taking security or not, as the case may require, which should be done if the applicant is only temporarily unable to earn a livelihood, and yet likely to be able to repay the loan at some future date. Such loans may be at such rate of interest as the Council think advisable.
- (g) The capital funds available for investment under the control of the U. P. A. Council shall be invested in Indian Government Stock.
- (h) The U. P. A. Council shall have power to consider and deal with all cases not provided for in the foregoing Regulations, and shall have the power to alter and amend any Rule and to make new Rules subject to confirmation at the Annual General Meeting of the U. P. A. S. I.

5. Subscriptions will be received and acknowledged by the Secretary through District Associations.

FORM A REFERRED TO

Name and address of person for whom application is made.

Name and address of friends supporting the same.

Names of Members in District in which applicant resides supporting the same.

Reason of application.

Age of all applicants for whom assistance is sought.

How long in distress.

Position of applicant, or widow and children, if for their relief.

Salary of applicant, or deceased, for the past 5 years.

Family dependent on him.

Cause of losing property.

Cause of losing situation, if out of employment.

Certificate of health of the invalid from a Medical Officer.

Whether of temperate habits.

24. That the Secretary of the U. P. A. S. I. be Honorary Secretary of the Benevolent Fund.—*Carried.*

IMPERIAL PREFERENTIAL DUTIES.

25. That this Association re-affirm its adherence to the policy in favour of Imperial Preferential Duties on all British-grown products.—*Carried with acclamation.*

LABORATORY FOR THE SCIENTIFIC OFFICER.

26. That this Association request the Mysore Government to kindly allow them the temporary use of their Laboratory for the Scientific Officer, —*Carried.*

COMMENTS IN THE PRESS.

27. That this Association while regretting that a reputable paper like the *Hindu* should publish a scurrilous and anonymous attack from a Gudalur correspondent, desires that no action should be taken in the matter, feeling that Planters are afforded, as a rule, sufficient protection by the Press in general against attacks of this nature—*Carried*.

H. E. THE VICEROY.

28. That the Planting Member and the Chairman of this Association be requested to take such action as they may deem necessary to welcome His Excellency the Viceroy on his coming visit to the Madras Presidency.—*Carried*.

FINANCE.

29. That the fixed deposit of Rs. 1,000 in the National Bank of India, Ltd., be renewed for a further period of one year.—*Carried*.

30. That any sum that may be found available during the year be invested in the National Bank of India, Ltd., at the discretion of the Chairman and Secretary.—*Carried*.

Arsikere-Mangalore Railway Project.

When forwarding the Memorial of the U. P. A. S. I. on the above subject to the Secretary to the Railway Board, Simla, the Secretary to the Government of Madras, P. W. D. (Railway), remarked:—" . . . the prospects of this Line are as follows according to the survey of 1900-01:—

Estimated cost	...	...	...	...	Rs. 86,00,000
Estimated working expenses	...	...	...	...	662/8 ⁰ / ₁₀
Estimated traffic in sight giving net earnings	3'4 ⁰ / ₁₀	...	...	...	Rs. 8,79,500
Estimated prospective traffic giving net earnings	3'93 ⁰ / ₁₀	...	...	...	„ 10,14,000

"The Government of Madras while recognizing the importance of providing a link between Mysore and the West Coast are unable to recommend that this project should be preferred to any of those recommended in this Government's letter No. 516-Ry., dated 3rd August, 1909."

The Renard Road Train.

Mr. Kenneth-Buchanan, Secretary and Manager of the Renard (India) Transport Corporation, Ltd., has arranged to meet the Secretary of the U. P. A. S. I., and any Planters who may be able to attend, at the U. P. A. S. I. Office, Bangalore, on Monday, September 20th, at 11-30 A. M.

PEPPER VINE DISEASE.

On being informed that any date in November would be convenient for the proposed visit of Dr. Butler to the Wynaad, but that the earlier the date fixed in that month the more satisfactory the conditions of investigation would probably be; that early intimation as to the date would be appreciated, as it was desired that the Scientific Officer to the U. P. A. S. I., should meet Dr. Butler in the Wynaad; and that a hope had been expressed that the latter scientist might be able to extend his tour to North Mysore, where pepper vine disease is also known in a form that may possibly differ from that which occurs in the Wynaad, the Madras Government stated to the above effect that a copy of the letter had been forwarded to the Inspector-General "for compliance with the requests" made therein.

Scientific Officer's Papers.

III.—TOUR IN THE NILGIRI HILLS.

A tour was made in the Nilgiris from 14th to 25th July. From 15th to 17th I visited the Kullakamby district and attended a meeting of Planters on the 17th; from 19th to 21st I visited the Coonoor district and addressed a large Meeting of Planters at the Coonoor Club on 21st; from 21st to 24th I visited the Kotagiri district and attended a meeting of Planters at the Kotagiri Club on 24th.

The Coffee throughout these hills is attacked by the Brown Bug (*Lecanium hemisphaericum*), the Green Mealy Bug (*Pulvinaria psidii*), and the Green, or Pulney, Bug (*Lecanium viride*), the last doing by far the most damage.

In some places whole Estates are infested with Green Bug and the attendant soot fungus, making the trees quite black, and the Coffee is being very severely damaged by it, and in some cases actually killed. Its eradication is a very difficult and serious problem. The attack is particularly bad at the present time, owing to the long drought which has been experienced in the district, everything being in favour of the Scale, and against the Coffee. The attack is so bad, and has spread over such large areas, that any method of spraying or washing is to a great extent impracticable, owing to expense and physical difficulties, but where this can be done it should certainly be adopted.

Undoubtedly a good monsoon would do more good than anything else, and if this is obtained, as it is to be sincerely hoped it will, careful attention should be paid to the trees as soon as the Scale renews its attack in the succeeding dry weather. Every effort should be made to prevent the Scale from spreading at first, and for that purpose, when it is only on a comparatively few trees at the beginning of the attack, spraying and washing are most valuable.

In the meanwhile I would recommend the following methods of control:—

(a) Hard pruning, so as to throw the strength of the tree into the least amount of bearing wood, the prunings being burned. The trees should be kept open by handling so that they can be easily inspected and washed as soon as the bug appears.

(b) High manuring and good cultivation to keep the vigour of the trees at a maximum. Though the healthy trees are attacked equally with the unhealthy the former are more likely to recover from the attack than the latter.

(c) The application of Lime to the soil at the rate of 1½ to 2 tons per acre of slaked shell lime, broad-casted and covered by a mulch to prevent access of air to the lime, and the surface soil from drying out. Good results have already been obtained by heavy mulching, but Lime should be much more extensively used than it is at present.

(d) The adoption of clean methods of cultivation, and the careful eradication of weeds such as Spanish Needle (*Bidens*) which are attacked by the Scale, and the establishment of leguminous green dressing crops in their place.

(e) The clearing of roads and boundaries of such plants and trees as are known to be attacked, or are liable to be attacked, by Scale, and so act as nurseries for it.

(f) The removal of shade trees in the Coffee which are attacked by Scale. This should be done gradually, by growing temporary shade first of Dadap (*Erythrina*) before the tree is removed. The Dadap can be replaced at leisure by Grevillea.

(g) It is very noticeable that the Scale is less under dense shade, and in places where the attack is very bad and it is a matter of saving the life of the trees rather than the crop the shade should be temporarily increased by planting leguminous shrubs such as *Cassia* and *Erythrina*. These can be cut out when the Coffee recovers.

(h) In Montserrat (British West Indies) Lime trees badly attacked by Scale are cured by covering them with a leguminous creeper known as Bengal Bean, the botanical name of which is *Mucuna pruriens*, var. Under the dense shade formed by this the Scales are killed chiefly by parasites; the bean is then cut and the trees grow fresh shoots. Experiments might be tried with Coffee on these lines over limited areas at first, if seed of the Bengal Bean can be obtained, and the effect carefully watched.

(i) Where the attack has been so bad that the trees have died back it will probably be found best to stump them and start again; the young suckers can be sprayed or washed and kept free from Scale. Spraying is unfortunately on many Estates rendered extremely difficult and expensive owing to the lack of water.

The Scale is distributed from place to place by various agencies. The wind blows eggs and young Scale insects about, and birds and other animals carry them clinging to their feet and bodies; coolies passing through Scale-infested Coffee also carry Scales clinging to their clothes, and more care should be taken to prevent coolies passing from infected portions of an Estate into portions which are free from attack. Ants also distribute the Scale, and their nests should be destroyed whenever possible. In the monsoon eggs and young Scales will be found stored and protected in the ant nests.

The Scale is attacked by several parasites. Ladybirds destroy some of them, and certain flies parasitise them. Two kinds of fungus, a white one and a grey one, were also observed growing on and destroying the Scale. These fungi do not, unfortunately, appear until the wet season, and it is difficult to make them grow in the dry weather.

Time and energy are being wasted to a great extent in trying to discover new washes. It is not the wash which is expensive, but the labour of application. No better wash will be found probably for spraying than the Rosin wash recommended by Mr. Lefroy, or for brushing, than the wash used on Mr. A. G. Nicholson's Estates, viz:—1 lb. Gossage's Blue Bar Soap, 1 lb. crude saltpetre and 1 lb. Rosin dissolved in a kerosine tin of water and applied warm with a soft brush as a thick lather.

I notice that Mr. C. B. Antram, Entomologist to the Indian Tea Association, writing on the subject of Mosquito Blight on Tea, strongly recommends the use of "Imperial" Bar Soap, supplied by the Bengal Soap Factory; and this soap might be worth a trial in comparison with Gossage's.

The success of the method depends on the thoroughness with which it is done. Careless washing by which parts of the tree are missed is waste of time, because the Scales missed will rapidly re-infect the tree. At the beginning of an attack this is undoubtedly the best method of keeping it in check. This mixture will also kill ants.

When the Coffee has been allowed to grow tall it is almost impossible to do anything when it is attacked by Scale, and this method of cultivation is dangerous in districts where attack is a probability.

So long, however, as there is no general attack made upon this pest by the whole Planting Community, little headway can be made against it. Coffee attacked by Scale and abandoned acts as a nursery and breeding ground from which neighbouring Estates are re-infected as soon as they are cleaned. Every effort should be made by the Planters' Associations to combat this practice of abandoning Scale-infested Estates, even, if necessary, pressing for a Pest Act similar to that in force in Ceylon and other countries. Until this practice is abolished the Scale can never be eradicated.

With regard to other crops, Tea appears to be doing well. Some trouble is experienced from the attack of Red Spider and Pink Mite, but the application of sulphur kills these pests. So far Scale does not appear to have attacked Tea, though on one Estate it was observed in young Tea plants planted among badly infested and dying Coffee. When replacing Coffee which has been killed by Scale, with Tea, care should be taken to clean the land thoroughly. The Coffee stumps should be burned, the land forked up and the weeds burned, and lime should at the same time be applied to the soil.

IV.—TOUR IN THE SHEVAROY HILLS.

From 28th July to 1st August I visited the Shevaroy Hills and attended meetings of Planters at Yercaud and Nagalur.

In this district the Green Bug (*Lecanium viride*) is only just beginning to appear on Coffee, and after seeing in the Nilgiris what damage it can do when it gets a hold, too much stress cannot be laid on the importance of tackling it vigorously at this stage. The whole Planting Community must make up its mind to go for it and stamp it out wherever it appears at once. Estates should be most carefully patrolled and a keen lookout kept for infected trees, which should at once be pruned, the prunings being collected in baskets and taken out and burned, and the trees brushed with the mixture recommended above. At the beginning of an attack this method is comparatively easy. Great care should also be taken to avoid the introduction of the pest from neighbouring districts. Coolies coming from infected districts should not be allowed to pass through the Coffee until their clothes have been freed from possible Scales, and the Coffee growing along the sides of public roads should be cut up and not allowed to so overhang that it may be brushed against by passers-by. The jungle and boundaries of Estates should be watched, and as soon as trees are seen to be attacked by Scale they should be burned, or topped and whitewashed and sprayed if necessary. If these means are adopted by everybody, I see no reason why the pest should not be prevented from becoming serious in this district.

The Brown Bug (*Lecanium hemisphaericum*) appears to be more common in the district than any other Scale, especially on young Coffee. This and the Green Mealy Bug (*Pulvinaria psidii*) should be treated as soon as it appears and so kept in check.

Here, again, Lime is not used sufficiently, and its more frequent application to the soil in quantities of 1½ to 2 tons per acre will produce beneficial results.

My sincere thanks are due to the Secretaries of the Nilgiri and Shevaroy Associations for the trouble they took to arrange programmes and Meetings for me which enabled me to visit a large number of Estates and economise my time, and also to the Planters in both districts for their kindness and hospitality.

(Signed) RUDOLPH D. ANSTEAD, *Scientific Officer*.

Note.—The wash recommended for brushing the trees is prepared as follows:—

The soap is sliced up and boiled with the water till dissolved, the salt-petre is then added and dissolved, and finally the Rosin, powdered very fine, is added a little at a time, the mixture being kept at the boil and well stirred till all is completely dissolved.

It is best to use English Rosin. Some local Dammars will do, but not all, and care must be taken in using them to test their efficiency first.

Mr. Nicholson has kindly supplied me with the following information about the cost of the materials:—

Gossage's Blue Bar Soap is Rs.18 to 20 on the Estate per case of 108 lbs.; Rosin is 10s. 6d. per cwt. *c. i. f.* Calicut; crude salt-petre is Rs.100 per ton on the Estate.

Tea cultivation in Java is increasing rapidly. The *Batavia Nieuwsblad* hears that there is now a great demand for land suitable for growing the shrub. One remarkable feature of the boom is that many Planters from India are now travelling in Java on the look-out for land on lease from Government. When this cannot be got, they are ready to take over leased land from concessionaries.—*Straits Times*, 9th August.

DISTRICT PLANTERS' ASSOCIATIONS.

North Mysore Planters' Association.

Quarterly General Meeting held at Balehonnur, on 12th July, 1909.

Present.—Messrs. C. H. BROWNE (*President*), H. G. BONNER, L. P. KENT, C. F. CRAWFORD, H. ALLARDICE, H. M. NORTHEY, and R. G. FOSTER (*Honorary Secretary*).

By Proxy.—Messrs. F. J. PARTON, D. MATHIAS, THOS. HUNT, F. W. HIGHT

No. I. (a) *Labour Act*.—*Resolved*.—That this Association records the Resolution passed by the South Mysore Planters' Association at their Annual General Meeting in favour of the introduction of Act I of 1903, with modifications, into the Province of Mysore.

(b) That the attitude of this Association with regard to the introduction of the Act remains unaltered.

(c) That this Association approves the action taken by the President in recommending that the U. P. A. S. I. do take steps to appeal against the judgment in the Nilgiri Crimping case.

No. II. *Coffee Seed*.—READ letter from the Deputy Commissioner of Kadur District, dated the 4th June, 1909, with regard to the proposed introduction of coffee seed from Arabia, and asking for the opinion of the Association on the following points:—

(1) Whether Mysore Coffee has deteriorated, and is generally unfitted for seed in nurseries.

(2) Where Planters now obtain their seed for nurseries (whether from local coffee or from outside).

(3) What is the opinion of the Association in the matter of importing coffee seed from Arabia as suggested by the Member referred to above.

(4) Whether your Association can give any suggestions for improving the Mysore coffee, if, in its opinion also, the coffee is deteriorating in quality and requires to be improved by the introduction of fresh stock from outside.

(1) *Resolved*.—That the vitality of the Mysore coffee tree has deteriorated to some extent, and is more liable to disease than formerly—the seed is fit for nurseries, and no better seed has yet been discovered.

(2) Coffee seed is generally procured locally or from Coorg.

Seed has been imported from various coffee producing countries, but so far no foreign seed has been found as satisfactory as the local product.

(3) That it is advisable to import coffee seed from Arabia, provided that steps are taken to ensure that no disease exists in Arabia which might be introduced through the medium of the seed.

(4) That the alleged deterioration of the Mysore bean, if true, is probably due to the fact that the output per acre has increased considerably in the last 20 years, it is now recognised that heavy crops are obtained at the expense of quality.

That more care should be taken in the selection of seed.

No. III. *Proposed additions and amendments to Game Rules*.—The Honorary Secretary said that a number of letters had been received from members who were unable to attend owing to the weather.

The following are extracts taken from some of these. Letters 1, 2 and 3:—

(1) "As regards the Game Officer's proposals, I agree that two bison and four cheetah seem fair, but think that at least four sambhur, and four jungle sheep should be allowed under one license."

"I think five antelope in any one district is as much as a district can stand, without diminishing the game and not more than ten for the whole Province: Chitaldroog district certainly cannot stand 10 being shot under one license."

"Now that the subject of the Game Laws are being discussed between the Government and Association, I think we should enter a very emphatic protest against the unlimited and unchecked shikar indulged in by the ryot and his dependents. The license holders, chiefly Europeans, are ready to curtail their sport with a view to preserving the fauna of the Province, indeed; I do not suppose more than 10 bison and 20 sambhur have been shot in the Mulnad during the year by license holders, but the number of sambhur and cheetul of both sexes slaughtered by unauthorized people would probably run into hundreds, I know of five sambhur which have been killed in my immediate vicinity by unlicensed people within the last year."

(2) "I have attached our remarks regarding proposed alterations to Game Rules. I wish our Association would point out that at present the Regulation is a farce. When out on Mookh in April, shooting was going on openly by Natives and Europeans who did *not* hold licenses."

"Ask Government either to enforce it or withdraw the thing altogether. It is only an annoyance to a few sportsmen."

(3) "Regarding the alterations in the Game Laws may I propose that Government first be asked if they intend to enforce the existing ones? Not only where Europeans are concerned but as regards Natives also."

"At present the whole Act is a farce and it appears to me that it is foolish to try and add restrictions which will only affect Europeans."

"I do not agree to limiting the number of heads, as I do not think it is necessary, but by all means try and restrict the shooting of small heads."

Resolved:—That this Association considers it is not advisable, at present to amend the Game Rules, which would only affect the few license holders who form an inconsiderable minority. The non-license holders would continue to destroy game as hitherto regardless of age, sex or season. It is the opinion of this Association that Government should at once take steps to enforce the existing Game Rules which, so far, it has not done. When this is accomplished, it will be time to consider the question of placing further restrictions on license holders.

Scientific Officer—Resolved—to request the U. P. A. S. I. to, if possible, secure the services of the Scientific Officer for the investigation of coffee black rot in Mysore during the month of August, otherwise another year will be lost

Sanderson Ward.—Resolved—to circulate voting Postcards to elect Member of this Association to represent it on the governing body.

Kadur Railway Station.—Resolved—to again call the attention of the Traffic Manager of the Madras and Southern Mahratta Railway to the dirty and insanitary condition of the 1st and 2nd-class waiting room accommodation at Kadur, which is frequently occupied by coolies and other persons for whom it is not intended.

Stamp Vendor at Sallebile.—Resolved—to ask the Deputy Commissioner to appoint the Postmaster as a vendor of Court Fee and Stamped Papers, as at present, the nearest vendor is at Buggonji and is inaccessible during the monsoon owing to the rivers.

U. P. A. S. I. Meeting.—The various subjects on the Agenda which were of interest to the Association were discussed and instructions given to the delegate.

ROADS AND BRIDGES.

Mahgundi Bridge.—Resolved—That the Government be again requested to bridge the streams on the Balehonnur-Mahgundi road. At present the Mahgundi bridge, which was built at a vast expense of public money, is rendered useless for a considerable period of the monsoon, in consequence of the streams on the approach roads being unfordable.

A vote of thanks to the Chairman brought the Meeting to a close.

R. GUY FOSTER,
Honorary Secretary.

Nilgiri Planters' Association.

By the kind courtesy of the President and Committee of the Coonoor Club, a well attended Meeting of planters, some 35 in all, was held at the Coonoor Club, on Wednesday, the 21st July, to meet Mr. R. D. Anstead, B.A., the Scientific Officer, then on a short visit to the Nilgiris. Mr. Hodgson was in the Chair, and after a few preliminary remarks by him, Mr. Anstead addressed the Meeting.

He began by saying that he was afraid he had neither been long enough nor seen enough in the district to enable him to express a certain opinion on the matters brought before him, and that he looked upon the Meeting as a means by which he might gain information to help him in the different problems.

Lecanium Viride.—Speaking of this pest, Mr. Anstead informed the Meeting that it was an old enemy of his, and one that he had been fighting for many years, for it was a great scale pest in the Western World, and in the West Indies was found on coffee and more especially on limes.

He strongly recommended, as a first aid, high cultivation with special attention to manuring. It appeared to be a recognised fact that the Nilgiri soils were deficient in lime, therefore lime as a manure was most essential. As a manure it acted in two ways, directly benefiting the tree, and indirectly releasing other plant food constituents of the soil. He further advised that shell lime should be applied from 1½ to 2 tons per acre and covered from exposure to air either with a mulch or by lightly digging in.

Prevention.—He laid strong emphasis on the necessity of exercising careful patrolling and watching by planters, so that if possible the pest might be located and dealt with upon its first appearance, either by cutting out or by the more drastic measure of burning. In the second stage, when the bug had got hold of the place, washing and spraying should be vigorously employed, and this he stated was the only absolute and infallible way of killing the bug, for any bug touched by the wash would succumb in 24 to 48 hours, but as the eggs were impervious to any insecticide this process must be repeated at short recurring intervals. He well knew the objections to spraying: the expense, the lack of water, the steepness of estates, etc., but in his opinion it should not be lost sight of that this was, perhaps, the most valuable method of treatment that had been devised. He said there were many good washes, especially Lefroy's oil, rosin and soap, but in this connection mentioned that Mr. Nicholson had told him that good results had been obtained by using soap, rosin and saltpetre, applied with a brush. This method he considered had the drawback of being slow, but possibly with the local labour was the best to employ.

Badly attacked places.—For these the Scientific Officer recommended pruning back as close as possible, burning the prunings, manuring, the growing of a living mulch, and keeping the place free of all bug-infested weeds, shrubs and shade trees. He told the Meeting of a climbing leguminous plant used in the West Indies on lime trees, locally known as the "Bengal Bean." This plant had been sown at the foot of the lime trees, and, growing rapidly, had been allowed to cover them completely. After a year when sufficiently grown, it was cut, and the lime tree threw out new shoots through the dying creeper, and the bug was found to have practically disappeared, a large percentage having been parasitized.

Abandoned places.—Most emphatically he said that these abandoned and uncultivated places were a source of danger to all, and as long as any existed would most certainly prevent the absolute extermination of the pest on these hills. He suggested a Pest Act, such as they have in Ceylon and elsewhere, which would make it penal for these sources of public danger to exist. This Act, he said, could perhaps be obtained, but he thought that this was a matter that lay with the Association itself; and so, depended on the strength of the Association as a body, and the solid cohesion of all planters.

Before concluding his speech Mr. Anstead drew attention to what he considered to be a very grave mistake in methods of cultivation, and that was

having bare spaces of soil exposed between the rows. He would like to see all planters grow some leguminous plant as a protection and improvement to the soil. For this purpose he considered it would be better to encourage the growth of indigenous leguminous plants, as they were more likely to thrive in their surroundings than imported ones, such as *Crotalaria striata*, which, as he had seen for himself, grew in some places as high as 10 feet, in others, perhaps, 6 inches, and in others not at all. He hoped that all planters would send him specimens of anything they thought might be useful, and he would have them reported upon and named.

* * * * *

On Mr. Anstead resuming his seat a general discussion ensued. Some questions were asked and most notably one regarding the Fungus that is known to attack and destroy the bug. Mr. Anstead said it was similar to, and perhaps the same as, one he had known in the West Indies. Asked if it was possible to prepare a culture of this, he replied that it was one of the things he hoped to give his close attention to. Asked about soaps, he said that a soda soap, such as Sunlight, should be used in preference to an acid soap. Mr. Nicholson gave some details of a soap which he is using which is as effective as but cheaper than Sunlight.

A useful selection of common leguminous plants very kindly brought by Mr. Porter, was then handed round the room for the information and inspection of Members.

The Chairman, Mr. Hodgson, in a short speech, called attention to the financial needs of the Scientific Officer Scheme. He had had the opportunity of looking through the list of promised subscriptions and hoped that a more liberal support would be forthcoming from all planters in the District. He was now glad to hear from the Honorary Secretary that subscriptions amounting to Rs.250 had been promised in the room. He thanked Mr. Anstead for his most interesting speech, and then the Meeting terminated with the usual votes of thanks.

(Signed) E. F. BARBER,
Honorary Secretary, N. P. A.

South Travancore Planters' Association.

Minutes of Meeting held at Quilon on July 24th, 1909.

Present:—Messrs. D. G. CAMERON (*Chairman*), J. STEWART, J. C. PARKER, J. B. COOK, C. BRANDER, H. W. HEBERDEEN, R. ROSS, E. M. EWART, A. F. MACDONALD (*Visitor*), and L. G. KNIGHT (*Honorary Secretary*).

The Minutes of the last Meeting were read and passed.

Mr. Parker was unanimously elected as this Association's delegate to the U. P. A. S. I. Meeting at Bangalore on August 9th.

Resolved:—"That this Association subscribes to the Lady Ampthill's Nursing Institute as from January 1st, and that a vote of thanks be sent to Mr. R. C. Carr, the British Resident, for the interest he has taken.

"That our delegate be empowered to promise a subscription towards the Scientific Officer on the same acreage basis as other Associations.

"That the Standing Committee be empowered to draw up a report specifying what pests and diseases our delegate should draw the Scientific Officer's attention to, and what general matters he should bring up.

"That the subscription to this Association be increased from 1 anna to 1½ annas per cultivated acre to meet increased expenditure.

"That the Honorary Secretary, L. A. N. I., be written to to point out that this Association considers that all Europeans employed on an Estate subscribing to this Association should be entitled to the services of a nurse under the new rules, and that a list of the Estates be forwarded to the Honorary Secretary, L. A. N. I., so that in wiring for a nurse no time should be lost,

"That the Government be respectfully asked to consider the advisability of adding a European ward to the Quilon General Hospital, and that a copy of this Resolution be sent to the Dewan.

"That the Government's attention be called to the state of Poonalur Bridge, which has been closed to traffic for 13 months, though in November last our delegate at the Shri Moolam was assured by the Acting Chief Engineer that the repairs would be completed within a year."

A vote of thanks to the Chairman terminated the Meeting.

L. G. KNIGHT, *Honorary Secretary*.

The Committee of Messrs. R. Ross, J. C. Parker, J. Stewart, L. G. Knight and D. G. Cameron.

Resolved.—"That the following list of diseases which affect Tea and Rubber trees in Travancore be sent for the information of the Scientific Officer:—

Mosquito blight—season, June to October.

Shothole borer.

Rosilinia, root disease.

In Rubber.

Rosilinia.

Javonica corticum.

Branch disease.

Canker.

That the delegate be impressed with the importance of having Rubber included in the Agenda at the U. P. A. S. I. Meetings.

South Mysore Planters' Association.

Minutes of Special General Meeting held at the Munzerabad Club, Saklasapur, on the 25th of July, 1909.

The President, Mr. W. L. Crawford, in the Chair.

THE HONORARY SECRETARY'S ILLNESS.

The Members present expressed their regret that Mr. R. F. Lamb had been so ill and trusted that his visit to England would soon restore him to health, and that he would be back in Mysore at no distant date.

SCIENTIFIC OFFICER.

This Association notes with extreme pleasure that the Scientific Officer for the Planting Industries of Southern India has arrived and will shortly begin work.

LABOUR LAW.

Resolved.—"That the Sub-Committee appointed to consider the Labour Act meet at Chickanhully, on Thursday, September 2nd, and that they subsequently, after submitting their report to the Members of the South Mysore Planters' Association, endeavour to arrange a Meeting at as early a date as possible with the representatives of the North Mysore Planters' Association with the object of exchanging views with them and discussing whether or not steps should be taken to get the Act, with modifications, introduced into Mysore.

"That Mr. Graham Anderson's resignation from the Sub-Committee be accepted with regret, and that Mr. J. A. Harris act in his place.

"That as it was not made clear at the last General Meeting that the Sub-Committee appointed to consider this Act should first submit their report to the Members of the South Mysore Planters' Association before any further action be taken, it is hereby resolved that they shall submit their report for the consideration of the whole Association before any further steps are taken."

COFFEE CESS AND SCHEME FOR THE POPULARIZATION OF COFFEE.

Resolved.—"That this Association notes with regret that the Government of India refuses to impose the export cess and trusts that the Delegates at the

Meeting of the United Planters' Association will take the necessary steps to have the question re-opened."

ELECTION OF DELEGATES TO THE UNITED PLANTERS' ASSOCIATION.

The following Members were elected to represent the Association at the forthcoming Meeting of the U. P. A. S. I. in Bangalore :—

The President, Mr. W. L. Crawford, Messrs. A. R. Park, J. A. Harris, C. Lake and J. Aird.

DUSSERAH REPRESENTATIVE ASSEMBLY.

Mr. J. A. Harris was elected to represent the Association at the Mysore Representative Assembly.

ACTING HONORARY SECRETARY.

That the thanks of the Association are due to Mr. L. F. Lake for kindly undertaking the duties of the Honorary Secretary until Mr. Lamb's return.

Anamalai Planters' Association.

Proceedings of the Sixth Annual General Meeting held at Valparai Bungalow on Monday, the 26th July, 1909.

Present :—Messrs. J. E. SCOTT, E. W. SIMCOCK, C. R. T. CONGREVE, H. W. DE SALIS, J. B. WALLACE, R. F. LUSHINGTON, and C. H. BROCK (*Honorary Secretary*).

Chairman :—Mr. J. E. Scott was voted to the Chair.

1. (a) *Read Proceedings* of the General Meeting held on 26th June, 1909.

With reference to Section 3 of the Proceedings, *Weeding Rates*, Mr. Simcock proposed and Mr. Congreve seconded that the wording of the Resolution passed should be revised to read as follows :—

"That all contracts for weeding old cultivation for one year shall not exceed the rate of 10 annas per acre per weeding, for from 12 to 14 weedings completed during the year; and that for young clearings the rate be left to the discretion of Managers of Estates."—*Carried unanimously.*

The Meeting confirmed the Proceedings.

(b) *Read and confirmed* the Proceedings of the Committee Meeting, dated 5th July, 1909.

2. *Honorary Secretary's Report*.—Mr. Congreve then read his Report for the past year, which ran as follows :—

GENTLEMEN,

Although I found it necessary to resign the Honorary Secretaryship of the Association, still as I have had charge of its affairs for practically the whole year, at the request of the Committee I have agreed to write the yearly report,

Leases.—At last we have had draft leases issued to us and at a Meeting held at Puthutotum on April 23rd the District Forest Officer was present, and all the various clauses were discussed. Certain alterations and modifications were suggested, and these, I understand, have been sent up to Government for final orders. It is to be hoped that it will now not be long before our final leases are issued, and that this business, which has been dragging on for more than 12 years, will be finally settled.

Prevention of Coffee Thefts.—It will be remembered that before last crop season certain arrangements were made with the District Superintendent of Police to try and stop a recurrence of the thefts of coffee during transport from Estates which had been so bad in the previous year. I believe I am right in saying that the steps taken were most effective, and that practically no thefts occurred.

Roads and Communications.—There is nothing to report in this connection, as Government seem determined not to make any further roads in the district however urgently they are needed.

District Board.—Just after our last Annual General Meeting we were offered by the Collector a seat on the District Board, and Mr. Windle kindly consented to take up the job and has since represented this Association.

Cinchona.—At our last Annual Meeting it was proposed that the U. P. A. S. I. be asked to protest against Government making further extensions of their Cinchona plantations or purchasing foreign bark. In a Circular from the Secretary, U. P. A. S. I., dated 8th February, 1909, we were informed that whilst Government have at no time made any promise that new areas would not be opened for Cinchona cultivation, still there have been no extensions except such as have been found necessary to maintain the existing effective area of the plantations. Government also stated that repeated large purchases of bark from local growers had been made.

Popularization of Coffee.—A Circular from the Secretary, U. P. A. S. I., came to hand a few days ago in which Government refused to sanction the proposed compulsory cess on exported coffee, because the sum that would be realized would be too small for any practical purposes. This matter will come up for discussion to-day, so nothing further need be said about it in this report.

Scientific Officer.—The officer appointed by Government at the request of the U. P. A. S. I. has lately visited this district. Unfortunately owing to heavy monsoon he was able to do but little, but on his next visit he informed us that he would start any investigations and experiments we may suggest. He asked us to draw up a programme of what we required done in the district and to instruct our delegate to the U. P. A. S. I. Meeting, so that a scheme of work for the year could be drawn up. This we shall be able to do at the Meeting to-day.

Medical Officer for the District.—At the request of the district I brought this subject to the notice of the Collector, the Civil Surgeon of Coimbatore and the President of the Taluk Board. It was decided at a Meeting held on 1st January that the district should subscribe towards a Medical man and the President of the Taluk Board has promised to bring the matter forward at the next Budget Meeting held in November.

Labour.—At the last Meeting of the U. P. A. S. I. considerable discussion took place with regard to inter-district and other crimping, and a Sub-Committee was formed to go into the matter. We now have their report before us. Besides this Mr. Brock very kindly consented to make out a scheme of compulsory Government Registration, which I understand he will also put before the Meeting, and I hope we shall be able to arrive at some satisfactory scheme to lay before the U. P. A. S. I. At present each year our maistries make more and more complaints of their advanced labour being enticed elsewhere, and if something is not done soon to stop this, we shall very shortly be left without any coolies at all.

U. P. A. S. I.—The Agenda Paper of the Annual Meeting comes up for discussion before you to-day, and instructions must be given to our delegate of all matters of importance to this district. Mr. Brock has consented to represent us.

Accounts.—These have been handed over to the new Honorary Secretary, who will doubtless place them on the table to-day.

(Signed) C. R. T. CONGREVE.

* * * * *

The Honorary Secretary's Report was adopted and the accounts passed.

Mr. Brock proposed and Mr. Scott seconded a hearty vote of thanks to Mr. C. R. T. Congreve for his services during the past year.—*Carried unanimously.*

4. *U. P. A. S. I. Agenda Paper.*—The Meeting proceeded to discuss the various subjects on the Agenda, and to give instructions to the delegate on all points that were not on the Agenda of to day's Meeting.

No. 4 (d) *Proposed Coffee Cess.*—The following Resolution, proposed by Mr. Congreve and seconded by Mr. Wallace, was *carried unanimously*:—

"That Government be again addressed with reference to the proposed Coffee Cess, and that more reasons be adduced in favour of the same."

No. 8 (a).—The following Resolution was proposed by Mr. Simcock and seconded by Mr. Lushington:—

"That Government be requested to extend the provisions of Act I of 1903 to this District."

On being put to the Meeting the resolution was *lost*.

No. 8 (b) *Prevention of Thefts of Tea.*—The Meeting instructed their delegate to support any Resolution on this subject.

5. *Leases.*—The amendment to Clause 3 of the Leases was recorded.

6. *Medical Officer.*—READ and recorded the Honorary Secretary's letter to the President of the Taluk Board, Pollachi, dated 6th July, 1907.

7. *Scientific Officer.*—It was resolved that Mr. Anstead be asked to visit the Anamalais in November to study the following:—

- | | |
|---------------------------|------------------------------|
| 1. Coffee Root Disease. | 2. Green Scale Bug. |
| 3. Pepper Scale Bug. | 4. Tea Root Rot. |
| 5. Rubber Root Rot. | 6. Tea Blights. |
| 7. Manurial Experiments. | 8. Pepper Vine Disease. |
| 9. Rubber Branch Disease. | 10. Coffee Seedling Disease. |
| 11. Green Manuring. | 12. Cinchona Borer. |

8. *Illicit Liquor Traffic.*—Mr. Simcock proposed and Mr. Brock seconded:—

"That the attention of Government be drawn to the extent of Illicit Traffic in Liquor in the Anamalais."

On the Resolution being put to the Meeting the show of hands resulted in even voting for and against the Resolution. The Chairman gave his casting vote against the Resolution, which was therefore *lost*.

9. *Election of Office-bearers.*—Mr. C. H. Brock was elected Honorary Secretary and Treasurer for the ensuing year.

The following Resolution was proposed by Mr. Congreve and seconded by Mr. Simcock:—

"That the Committee be composed of one representative of each Estate, of an area of 500 acres of cultivation and over, subscribing to the Association."—*Carried unanimously.*

The Meeting then adjourned for Tiffin.

On re-assembling, the Meeting proceeded to discuss the subject of:—

10. *Labour.*—(a) Read U. P. A. S. I. Circular No. 53/09, dated 20th July, 1909, enclosing copies of correspondence with reference to the Nilgiri Crimping Case.

The Meeting could find no reason to change this Association's opinion, as recorded in the Proceedings of the General Meeting held on the 26th of June last.

(b) Read U. P. A. S. I. Circular No. 42/09, dated 28th July, 1909, enclosing the Report of the U. P. A. Labour Committee, which was recorded after considerable discussion.

(c) The Honorary Secretary laid before the Meeting the full details of a proposed scheme dealing with *compulsory Registration and legalized Discharge*, showing how it was possible to introduce and work it in India.

The draft scheme included a full description of the procedure in all places and under all circumstances, and, amongst other points, specially provided for:—

- (1) The registration of all maistries and coolies (Genuine Local Labour excepted) by Managers of Estates, at Recruiting Depôts and Agencies and through Village Officers; also of Indian coolies returning to India from work abroad, and of all Jail prisoners.
- (2) The establishment of a Central Registration Record Office to classify and file all the above local registers for ready reference, and to control the whole scheme.
- (3) The issue of "Memorandums for Employment" to all Registered Maistries and Coolies discharged from work on Estates in India.
- (4) To prohibit any Planter, or any Recruiting Agent or Maistry (recruiting labour either for inland plantation work or for emigration) from advancing or contracting with any Maistry or labourer who does not hold a "Memorandum for Employment."

The Meeting discussed the details of the scheme fully and carefully, and finally adopted it.

The following Resolution was proposed by Mr. Brock and seconded by Mr. Congreve:—

"That our Delegate be instructed to move the following Resolution at the General Meeting of the U. P. A. S. I.:—

"That, whereas it has become absolutely necessary to regulate the conditions of recruiting for labour in this Presidency both for plantation work in India and emigrant labour, this Association memorialize the Government of Madras to pass a law to ameliorate the existing situation for both the recruiter and the recruited on the lines drawn up by this Association.'"
—*Carried unanimously.*

The Meeting passed a vote of thanks, proposed by Mr. Congreve and seconded by Mr. deSalis, to Mr. Brock for the trouble he had taken in working out the details of the scheme.

11. *Coffee Stealing.*—While proposing a vote of thanks to the District Superintendent of Police, Mr. Congreve said that it was most evident that the steps taken by the Police last season had prevented theft to a great extent, as not a single case of coffee stealing had been complained of, and he trusted that the measures that had been so successful last season would be as successfully carried out during the approaching crop season.

The vote of thanks was seconded by Mr. Simcock and *carried unanimously.*

12. *U. P. A. S. I.*—Read and recorded U. P. A. S. I. Circulars Nos. 47, 49, 50, 51, 52 and 54 of 1909.

13. *Local Labour Rules.*—Mr. Congreve pointed out some serious "loop-holes" in the present District Labour Rules, which led to a long discussion. The Meeting recognised the difficulties, but, as no new rule could be adduced to cope with the same, decided to leave the Rules as they stand.

14. *Papers on the Table.*—Proceedings, Circulars and Correspondence from 26th June to 24th July, 1909.

The Meeting closed with a vote of thanks to the Chairman.

(Signed) J. E. SCOTT,
Chairman.

(Signed) C. H. BROCK,
Honorary Secretary

INDIAN TEA ASSOCIATION, CALCUTTA.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee held on the 10th August, 1909.

*Correspondence with the Indian Tea Association (London).—*Letters of 16th and 23rd July, from the Secretary, Indian Tea Association (London), which had been circulated, were now brought up for final consideration and disposal. The principal subjects dealt with in these letters were as follows :—

- (a) *Scientific Department.*—In the Proceedings of last Meeting it was mentioned that the Committee of the London Association were in communication with Mr. P. H. Carpenter with a view to his appointment as Assistant Scientific Officer of the Association. Sir James Buckingham now wrote that a Sub-Committee of his Association had interviewed Mr. Carpenter and were of opinion that he should be engaged. And Sir Havelock Charles reported favourably on Mr. Carpenter's health. A telegram of 30th July had also been received from London to the effect that Mr. Carpenter would arrive in Bombay on the 20th of August.

Mr. P. H. Carpenter studied Chemistry at the Technical College, Finsbury, London, and subsequently was associated with Mr. A. C. Chapman, Fellow of the Chemical Societies of London and Berlin, being, for four years, his Chief Assistant. He then came to Cawnpore and was connected with the Cawnpore Sugar Works for three years, doing a considerable amount of work on manuring, cultivation and the analysis of soils. Mr. Carpenter has also studied Bacteriology and has a knowledge of Botany. He is an Associate of the Institute of Chemistry of Great Britain, Fellow of the Chemical Society of London, and Member of the Society of Public Analysis.

Tea Blight in Upper Assam.—With a letter of 20th July Dr. G. D. Hope, the Chief Scientific Officer, forwarded copy of a Report he had prepared on a disease which has affected some nurseries in the districts of Dibrugarh and Doom Dooma. He had visited one of the affected gardens and had received information in connection with the disease from another garden. The disease, it appeared from his report, took the outward form of a blackening and shrivelling up of the leaves of the smaller and weaker seedlings of the nursery; at the commencement the tips of the shoots blackened and died off, the older leaves at the same time acquiring a copper coloured appearance in places. The final result was that the blackened and dead leaves fell off and the part of the seedling above ground appeared to be dead, the number of deaths varying between 20 per cent. and 50 per cent. of the seedlings. He was, however, inclined to think that many of the seedlings which at first sight appeared dead would recover, as the roots of the wilted plants were found to be normal and healthy and to retain a firm hold on the ground in a way characteristic only of healthy roots. On the information he had at the time of writing, he thought the disease might probably be due to a period of intense heat being followed by several days of incessant and heavy rain, this latter being followed in turn by another period of great heat. He proposed, however, to make further enquiries in the matter and to collect more data. In acknowledging receipt of the report the Committee had asked Dr. Hope if he could indicate whether shading was likely to have had any influence on the Blight.

Heeleaka Experimental Station.—The following Report had been received from Dr. Hope on the Garden work at Heeleaka during July :—

"*Manuring.*—The second applications of their respective manures have been given to plots 2, 3, 20 and 20a of the manurial series, that is to say, plot 2 has received its second application of ammonium sulphate, plot 3 its second application of nitrate of soda, and plots 20 and 20a their second applications of nitrate of potash. The effects of these have already made themselves felt and indeed much more so than the first application of the season which were given at a time of the year when the climatic conditions were not such as to assist in the quick action of the manures.

"*Hoing*.—The second round is completed and the third round has just begun. The ground is at present in very clean condition and a special effort has been made to remove all jungle from the bushes.

"*Pruning of Boga Medeloa*.—The Boga Medeloa in the clearance and in No. 1 Green Manure plot has been pruned.

"*Clearance*.—The Clearance Tea had been tipped once, already at a height of 30 inches. It was found that in each half acre plot tipping at this height was necessary, except in the case of the Lushai plot which afforded no bushes of the required height at this stage. The Kalline plot is at present ahead of the others. Out of some eight hundred bushes one hundred and eighteen of the Kalline bushes required breaking back.

"*Plucking*.—During July there have been three rounds of plucking and the total yield up to the end of the month has been 401 maunds 7 seers as compared with 342 maunds 4 seers to the corresponding date last year."

AN OLD TEA ENEMY.—Blister blight (*Exobasidium vexans*) which the Darjeeling Planters have asked their Government to enquire into is neither new to India nor to Ceylon although, fortunately, in Ceylon it has never assumed serious proportions. It is probably one of the oldest enemies of the tea bush. It is mentioned as far back as 1868, and Baidon, an old authority on tea, writes of it in 1877 that the leaf first gets a small speck on it, which enlarges and assumes the appearance of a blister. This was at one time supposed to be due to a blister caused by a drop of rain acting as a lens of the sun. Another description says:—"When fresh, it represents the appearance of a pale-green spot usually pitted on the upper surface of the leaf, and on the lower surface is seen as a raised white blister-like spot with a flowery or mealy texture, usually circular. It is chiefly confined to the leaves, but occasionally is seen on the green part of the stem. These portions eventually turn a brownish colour, and the leaf wholly or in part dies." There have been suggestions as to its cause, but it has been finally decided that it is a fungus growth which seems peculiar to tea, the China jats appearing to suffer less than those allied to Assam. The blight has been considered worse than the mosquito blight, is apt to come and go, and would have a marked effect on a crop estimate, as it checks leaf. Attempts have been made to keep it in hand by plucking off the leaves, but it can keep ahead of pluckers; and the remedy adopted is to dust with lime, and spray the whole block with Bordeaux mixture—copper sulphate and lime—precaution being taken to also spray the underside of the leaf.—*Times of Ceylon*, August 16th, 1909.

According to figures prepared for the "Ceylon Handbook and Directory" for 1909-10, the total area under Rubber in Ceylon is 184,000 acres. A good deal of this extent is interplanted in tea throughout 67,056 acres, while 18,898 acres of cacao are also intermixed with rubber. Under tea, 389,600 acres, besides perhaps 5,700 acres in native gardens of small extent. Under cacao, 30,016 acres, apart from about 5,800 acres in native garden. Under Coffee (Arabica and Liberica), 950 acres; Cardamom, 7,738; Cinchona, 196; Camphor trees, 1,200.

Mr. Kelway Bamber, the Government Chemist of Ceylon, is paying a flying visit to the F. M. S. Mr. Bamber's work with regard to rubber is well-known, but we may recall the facts that he is the discoverer of the cause of darkening in coagulated rubber, while he has introduced the hot water treatment to get the white product. He leaves for Java, we understand, to-morrow.

Another visitor here is Dr. D. Sandmann, the German rubber expert, who, at the instance of the German Colonial Office, went to Brazil in 1907 to study the Rubber industry there. Our readers may remember that some time ago we published the translation of a paper by Dr. Sandmann on Brazil as a competitor of ours. He is no stranger to the East, as he came out here to study the rubber industry in 1906-07. Dr. Sandmann is the inventor of a method of coagulating in which a salt of hydrofluoric acid is used instead of acetic. He is proceeding to Penang to act as one of the judges in the rubber section at the Show on Monday.—*Malay Mail*, August 7th.

INDIAN TEA CESS COMMITTEE.

Extracts from the Sixth Annual Report, for the year ended 31st March, 1909.

The Cess was imposed by Act IX of 1903 for a period of five years, and it came into operation on the 1st April, 1903. It consequently came to an end on the 31st March, 1908. On the 31st December, 1907, the Government of India notified that it would be continued for a further period of five years, beginning as from the 1st April, 1908.

At the Half-yearly Meeting of the Committee which was held on the 31st July, 1908, Mr. Lockhart Smith was re-elected Chairman of the Committee and Mr. Gerald Kingsley was elected to the Vice-Chairmanship.

The following gentlemen were also appointed to form the Executive Committee:—

Mr. Lockhart Smith (<i>Chairman</i>).	Mr. W. D. Cowan.
" G. Kingsley (<i>Vice-Chairman</i>).	" C. D. Inglis.
" H. C. Begg.	" W. Warrington.

Mr. D. Youngson.

Mr. W. D. Cowan has been succeeded by Mr. T. McMorran and Mr. Lockhart Smith by Mr. Stephen G. Anderson.

EXPORT BONUS ON GREEN TEA.

It was stated in the last Annual Report that the Cess Committee had decided to offer a bonus at the rate of six pies per pound on two million pounds of green tea to be manufactured and exported during the year which ended on the 31st March, 1909. On the 10th March, 1908, the Committee invited tea producers to tender for the manufacture of green tea in consideration of the bonus. In response they received tenders aggregating 1,724,800 lbs. Of this quantity the bonus has been paid on 1,143,197 lbs.

At the Half-yearly Meeting of the Cess Committee held on the 29th January, 1909, no further amount was allotted to the bonus on green tea, which accordingly came to an end on the 31st March last.

INDIAN TEA IN INDIA.

When referring in their last Annual Report to the question of the sale of tea in this country, the Committee mentioned an experiment which was being undertaken in their behalf by Messrs. Lyall, Marshall & Co. The experiment was one whereby a selected tract of country was systematically worked, so as to ensure good tea being brought within the reach of all classes of the population. It was begun in July 1907, and was continued until the 31st August, 1908. The area traversed was about 3,592 square miles, within which 710 villages were visited by the travellers employed. A small quantity—4,560 lbs.—of tea was sold, but the scheme did not promise to be sufficiently successful to justify its continuance.

In December the Indian Tea Association (London) suggested that an attempt should be made to push the sale of compressed tea in India. By compressed tea is meant either leaf or dust tea pressed within a small compass to facilitate distribution. It is manufactured largely at Hankow for the Russian market, and is believed to be in demand in Africa and elsewhere. The Committee considered the suggestion at their Half-yearly Meeting held on the 29th January, 1909, when they resolved that a bonus of nine pies per pound should be offered on a million pounds of compressed tea to be manufactured and sold in India during the current year. The Executive Committee at once placed themselves in communication with distributors, and they have reason to believe that a beginning will shortly be made with the manufacture of the tea. Delay has been caused by the difficulty of obtaining suitable machinery, but it is hoped that a machine will soon be sent to India.

INDIAN TEA IN EUROPE.

The work of pushing the sale of Indian tea in Continental Europe has continued to progress during the year. It is directed by Mr. J. E. M. Harington, the representative of the Committee, who has made Antwerp his head-quarters. Operations are confined principally to Germany and Belgium, and the general scheme is such as to bring the advantages of the Indian product directly under the notice of the consumer. In their last report the Committee mentioned that well-appointed Indian tea rooms had been opened by Mr. Harington on the 6th April, 1908, in a fashionable quarter of Berlin. These rooms have been visited throughout the year by more than 108,000 persons, and the daily average attendance has been upwards of 300. In October Mr. Harington opened branch rooms in Charlottenburg, Berlin. These also have been successful, although they are of course on a smaller scale than the principal rooms. At Hamburg an Indian tea room, which was opened by Mr. Harington on the 24th October, was visited by upwards of 32,000 persons during the first five months. The accommodation has since proved insufficient, and an extensive enlargement has had to be undertaken. At Brussels a tea room was opened in June, 1908, as a private enterprise by two ladies. This room was assisted from the Cess funds, and was decorated in Indian style, and became an Indian tea room. But ultimately difficulties arose among the proprietors, and it is now doubtful if the room will be carried on. A shop for the sale of dry tea was opened at Antwerp in the *Marché aux Souliers* in September 1908. It was attractively fitted up in Indian style, and a great show of tea was made in the window. It is purely an advertisement, and has attracted much notice, and the sales show a tendency to improve, if slowly. In addition to these various enterprises, the propaganda has been actively carried on in other directions. Indian tea has been displayed at two minor exhibitions, one in Germany and the other in Belgium. About forty tea-making demonstrations by Indians in costume have been given all over Germany. Samples, circulars and postcards have been distributed, use has been made of sandwichmen, of coloured posters, and of articles and advertisements in newspapers and other publications. Greatly increased attention has been drawn in consequence to Indian tea, both among traders and private consumers in all parts of Europe. And Mr. Harington has expressed the opinion that there is all over the Continent an undoubted tendency towards the increasing use of tea. The recent official adoption of tea as an alternative to coffee in the German Army is a concrete instance of this.

At the Half-yearly Meeting of the Cess Committee held on the 29th January, 1909, it was resolved to allot a sum of £10,000 to Mr. Harington for work during the year which will end on the 31st March, 1910. But the question of modifying this decision was raised subsequently and is still under consideration.

INDIAN TEA IN AMERICA.

At their Meeting on the 24th February, 1908, the Cess Committee resolved that the joint working with Ceylon, which has been in progress since 1903, should be continued for another year. The amount spent annually on the joint fund was £12,000, of which four-sevenths were contributed by India and three-sevenths by Ceylon. As the Ceylon Cess has now been discontinued, the fund came to an end on the 31st March, 1909. The Committee regret this, as they are convinced that much useful work has been done, to the mutual advantage of both Ceylon and India. The methods of work have been so fully described in previous reports, and in the reports issued by Mr. Richard Blechynden, the Commissioner, as to make it superfluous to detail them again here. But it may be mentioned that the country over which the scheme extended comprises the four States of Missouri, Indiana, Ohio, and Illinois, an area of about 200,000 square miles. The head-quarters of the Commissioner are at St. Louis, Missouri. Newspaper advertising is a prominent feature of the scheme, no fewer than eighty-five newspapers in forty-four towns having been utilised last year. Special travellers and salesmen are employed to call upon grocers for the purpose of interesting them in British-grown teas. Post-

cards, show-cards and samples tea are systematically and extensively distributed. About 190,000 post-cards, upwards of 16,000 show-cards, and 100,000 samples, have been issued during the year, in addition to more than 155,000 post-cards despatched from Calcutta. These are some of the leading features of the scheme which is fully described in Mr. Blechynden's report for the year. As has been already indicated, the joint working came to an end on the 31st March last. But at their Half-yearly Meeting held on the 29th January, 1909, the Cess Committee resolved to expend a sum of £10,000 in America during the year which will end on the 31st March, 1910. With this amount the scheme of advertising which has been carried on for the joint fund will be continued in behalf of Indian black tea only.

The separate Indian fund, to which reference was made in the last Annual Report, and for the maintenance of which the Cess Committee voted £4,000 at their Meeting on the 24th February, 1908, has been carried on throughout the year. The plan adopted in the case of the joint fund has been largely followed, but in territory contiguous to the joint fund area. Mr. Blechynden's Annual Report concisely describes the work which has been done, and which will be, it is hoped, maintained during the current year.

INDIAN TEA IN THE UNITED KINGDOM.

On the suggestion of the Indian Tea Association (London) the Cess Committee resolved, at their Meeting on the 31st July, 1908, to allot a sum of £2,000 to the Association for advertising Indian tea in the United Kingdom in opposition to the China tea propaganda. It was considered at that time to be necessary to take active measures with the object of counteracting the extensive advertising of China teas, which was in progress. Subsequently, however, events showed that the need for action in this direction was not pressing. But it was at the same time generally admitted that much useful work might be done in the way of further pushing British-grown teas in the United Kingdom by judicious advertisements in the shape of leaflets, pictorial post-cards, and pamphlets. The Indian Tea Association (London) proposed that the sum of £2,000, which had been intended for the anti-China project, should be diverted to this purpose. At their Meeting on the 29th January, 1909, the Cess Committee accepted the proposal, and during the last few months active steps have been taken by the Association. The methods pursued are, as has been indicated, the distribution of pamphlets, etc., the delivery of lectures in schools and institutes, and to the general public, in addition to newspaper advertising, and the insertion in newspapers and magazines of articles and paragraphs descriptive of the cultivation and manufacture of Indian tea. It is at present too early to estimate the value of the work which is thus being done, but the Committee are of opinion that it cannot be other than useful to the industry.

The Governor of Madras in Council has authorised the following gentlemen to witness the execution of Labour Contracts:—Mr. Charles Frederick Ewart, of Meppadi Estate, Meppadi, Wynaad; Mr. Henry William Bell, of Mackimala Estate, Manantoddy, Wynaad; and Mr. Charles Bentinck Barclay, of Succouth Estate, Ootacamund Taluk.

Mr. E. G. Windle, Managing Director of the Syndicate possessing Pudukad Estate, Cochin, and of the Cochin Rubber Co., told our representative this afternoon that the prospects in Cochin generally were very good—the soil being excellent, the climate good, the labour cheap, and the rubber conditions altogether first class. The rainfall was about 135 to 140 inches, which, of course, was very advantageous to the rubber. Their labour, he believed, was cheaper than that of any other Company in existence, for the labourer was on the spot, the climate was very healthy, and he was very conservative about leaving his home. There were no troublesome pests, and there was no serious trouble with the weeding, the land being extremely flat. He believed in clean weeding if possible.—*Ceylon Observer*, August 17th, 1909.

RUBBER.

The Rubber System of the Amazon.

Under this caption an interesting contribution from the pen of Mr. Gustav Heinsohn, of Pará, appears in the *India-Rubber World* of New York. We make some extracts:—

"A mistake too prevalent abroad," says the writer, "is that Amazon rubber is obtained by haphazard methods by ignorant denizens of the forest. But, I ask, if it were not for a well-organised system, how could Pará show a certain and well sustained and annually growing export of rubber? Could the manufacturers of Europe and America look confidently to the Amazon year after year for the rubber they need if there were not involved in its collection an intelligent system and large capital? True much foreign money has been sunk in efforts to exploit Brazilian rubber, but that was capital employed without intelligence or system. A seringueiro might fail as lamentably who suddenly essayed to operate New York's street railway system or control its police force

"I don't think the *India-Rubber World* has ever told its readers that much of the 'Pará' rubber exported from the State of Pará and Amazonas comes from privately owned lands, which are constantly being improved. Originally a man who wanted to go into the rubber business would ascend this or that stream and select a location for a seringal (literally a group of 'seringa' trees—an early designation of the Hevea), after which he would send for a Government Surveyor, whose fees, and those for registering the land, he would have to pay. The land itself cost him nothing. But there remains the cost of improvement. The Hevea rubber tree is scattered through dense forests, and estradas (paths or roads) have to be cut, through which the seringueiros go from tree to tree, after trained explorers have first located the trees. There is a further outlay for shelter for the Manager and the working force, for rubber collecting implements—and the inevitable 'store.' The better-managed seringaes to-day are equipped also with cattle.

"The typical owner of a seringal is a Brazilian with pride of birth and some capital, who, in case of success for a few years, becomes an aviator, when he is both a producer of rubber and a merchant on a considerable scale. The next step is to retire from business and spend the remainder of his life in Paris or Lisbon. He sells out before leaving Brazil, and the seringaes are transferred at a good round price—not for the land, *per se*, but for improvements.

"OPERATING A 'SERINGAL.'"

"The seringal owner does not, as a rule, hire labourers or pay wages. He has opened so many estradas—each with say 100 rubber trees—and plans to have so many men at work tapping trees and smoking latex. Each man's product is weighed periodically, and credited to him on the books of the seringal store, whence he obtains clothing, food and any luxuries in which he may indulge. The general credit is two-thirds of the prevailing market rate for rubber, *i.e.*, 4 milreis per kilogram if rubber has been selling at 6 milreis.

"When the year's product is shipped down the Amazon it goes direct to the aviator (consignee) at Manaos or Pará who has 'provisioned' the seringal, and usually is sold at once, at the prevailing price. It may be that the seringal comes out ahead, or that it remains in debt to the aviator. But the rubber workers have already been paid—not in money, but in book credits. If any have been thrifty there may be something due to them at the end of the year, but as a rule, the workers are seldom out of debt, and one may not leave any seringal on the books of which there is a charge against him.

"The aviator, by the way, is the merchant from whom the rubber importer of Liverpool or New York buys supplies for his customers. No American or European rubber importer has any capital invested 'up river.'

"The profit of the seringal comes from the store. The rubber gatherer is credited with two-thirds of the selling price of his product; the other third does not more than pay expenses of management and shipping charges. But the

store! I have heard it stated that—an importer of European goods at Pará charges a profit of 50 per cent. to the aviador; the aviador charges the seringal owner 50 per cent., the seringal owner charges 100 per cent.

"In good years fortunes are made under this system, but the risk involved is so great as to justify locally the scale of profits quoted. But even in the worst years rubber continues to come down the Amazon, and every year sees its procession of retired rubber traders going to Europe. But the seringueiro remains on the ground, caring not for Europe, or what rubber is used for, but content only with the supplying of his small daily wants, with no idea that he will ever be free from debt to his partner—the man who runs the seringal. For, as I have said, the seringueiro is not a hired labourer. He gathers rubber in estradas owned by a capitalist and is paid with merchandise from the capitalist's store. In times of high prices the labourer may become extravagant; when prices drop his credit at the store is limited.

"It is not to be wondered at that in many cases a seringal becomes the property of an aviador who has provisioned it. In fact, perhaps most of the better rubber properties are now thus owned. In the event of the new Syndicate law becoming effective, the aviadores of Pará might enter the list of exporters, since they are owners of rubber properties within the meaning of the law. These merchants own not only all the seringas on certain rivers, in addition to stores in the principal towns, but also steamers and launches which, if assembled, would make a formidable fleet. This new *régime* means a gradual consolidation of rubber properties, the effect of which will be accentuated in time by the existence of the new banking facilities already mentioned.

"RUBBER IN THE FAR EAST.

"And now about the competition of Ceylon and the Malay States as producers of rubber of a type produced in the past only in Amazon region. To my mind the British investor in rubber labours under a great mistake in regard to Brazil, not unnatural in view of the failure of London Companies organised to exploit forest rubber. But the Managers sent out from London have attempted to control the business on London ideas, without recognising the possibility of learning from the Brazilian. In Ceylon the Britisher is at home, and his rule is supreme; he has no competitor there; he produces rubber and sells it at a profit. The wish being father to the thought, he indulges in visions of the ignorant Brazilian native, with his lack of system, gradually being forced out of the business of producing rubber, after which the Far East will have a monopoly. 'We can grow rubber at a shilling or less a pound in Ceylon,' they say; 'can you beat that in Brazil?'

"No man to-day knows the cost of a pound of rubber in the Amazon country, either on one seringal or in general. In a land where no money circulates this man or that taps so many trees, cures his rubber, and gets from the seringal store enough to eat, some clothes and tobacco. The cost of rubber does not interest him; its selling price is nothing. So with the proprietors; the world needs rubber, and in a few years trading in it brings him a fortune.

"But suppose rubber prices should drop in half—something of which at present there is absolutely no indication. On the thousands of carefully laid out seringas of the Amazon are millions and millions of mature and productive trees, yielding rubber which has never been wholly equalled elsewhere in the world. They are owned by people who have capital, and are skilled in business and adaptable to circumstances. While temporarily lower prices may disturb business conditions, a permanently lower level would mean simply that the seringueiros, still in goods, would be credited with, say, 2 milreis instead of 4 milreis per kilogram on the books of the seringal; they might become less extravagant, and the proprietor might lessen his rate of profit on the goods dispensed; but so long as the trees are here and the rubber workers on the ground, there will be a capital available, whereby the natives will be able to sustain life by their labour, the capitalists will profit, and the Government will derive revenue from the business. The consolidation of the business of aviador and seringal owner is a step toward the possible new condition.

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

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U. P. A. S. I.

INCORPORATED.

Owing to the heavy pressure of matter relating to the Annual Meeting, of 1909, the September number of the *Planters' Chronicle* did not contain full notes of the current business of the U. P. A. S. I. As a consequence the present issue comprises a heavier record than usual.

Book of Proceedings, 1909.

This is now ready, and may be obtained from the Secretary at the reduced price of Re.1-4 per copy, per V.P.P.

The New Office.

This has now been opened, at 25, South Parade, Bangalore, where there will be sufficient room to provide accommodation for planters who may wish to write letters, etc., at the office, as well as for the holding of the Annual Meeting of the Association. The extent to which periodicals, etc., will be supplied for the use of planters visiting Bangalore will be mainly dependent on the support received from either District Planters' Associations or individuals.

The Scientific Officer.

It has been arranged that the annual contributions of the Association on account of the Scientific Officer who has been appointed to assist the planting industries in Southern India shall be paid to the Government of Madras—through the Honorable the Resident's Treasury in Bangalore and the Accountant-General, Madras,—in quarterly instalments. The first of these, dating from 16th April to 30th June, 1909, amounted to Rs.625. This and the second instalment of Rs.750 for the quarter ending 30th September, 1909, have been paid.

Liquor Shops near Estates.

In acknowledging the receipt of letter communicating the Resolution passed in August to the effect that the various Governments should be asked to disallow the opening of any liquor shop in a planting district, except in a recognised public market, without consulting the Planters' Association of the district concerned, the Secretary to the Chief Commissioner of Coorg wrote:—

“In accordance with the recommendations of the Indian Excise Committee of 1905-06 and the orders of the Government of India thereon, the Chief Commissioner directed on the 19th February, 1908, that all new sites for liquor shops in Coorg should be previously notified with a view to ascertaining any local objection to their position and that in the case of shops near Coffee Estates the planters concerned should be consulted.”

The Anti-Tea-Duty League.

In the course of a letter dated August 13th, and written in the hope that it might arrive in time for the Annual Meeting of the U. P. A. S. I., Mr. Stuart R. Cope, Secretary to the Anti-Tea-Duty League, observed:—

"I * * * take the opportunity of acquainting you with the present position of our agitation, although I fear that I may be rather too late for your Meeting.

"You are doubtless fully aware that the Finance Bill now before the House of Commons is being strenuously debated and that large alterations in its present form will certainly have to be made before it becomes the law of the land. Drastic changes are indeed being made already and it is by no means improbable that it may never pass into law.

"As regards, however, the only part of it in which we are officially interested, the retention of the Tea Duty at 5*d.* is practically a foregone conclusion for this year, and all that it appears possible for us to do is to ensure that the whole subject of the Tea Duty shall be thoroughly ventilated so that public opinion may be concentrated upon the injustice of the tax. I am doing all that is possible, but that is really very little, as our funds are now limited and I am practically restricted to such free publicity as I can obtain in the Press.

"As, however, the time approaches when the Tea Duty Clause comes up for discussion in Parliament, I shall endeavour to bring forward again the question of the individual pledges given to the League at the time of the 1906 Election and bring to bear every possible pressure that is legitimate.

"I should be glad to have from you any formal Resolution on the question that I may transmit to the Government.

"I trust you will do all that is possible also for us with respect to funds. At present I cannot see our way clear beyond the end of 1909."

Government Purchases of Cinchona.

In reply to letter forwarding the Resolution on the above subject that was adopted at the Annual Meeting in August, the Madras Government invited attention to para. 1 of G. O. No. 2695, dated 28th September, 1908, which reads as follows:—

"The Government have given careful consideration to the Planters' request that a minimum price of 1*d.* the unit should be paid for Bark supplied by them however much lower than that figure the London rate may be. They regret their inability to accede to it. The Director, Government Cinchona Plantations, is requested to inform the Planters accordingly."

Telegrams.

The Resolution concerning Telegrams that was adopted at the last Annual Meeting was duly communicated to the Director-General of Telegraphs. His reply, dated the 30th August, 1909, reads as follows:—

"With reference to your letter, dated the 16th of August, 1909, I am directed to inform you that the present procedure of treating insufficiently addressed telegrams has been adopted after mature deliberation and under instructions from the Government of India and is in accordance with the practice in force in the United Kingdom."

"As regards your remarks on the method of closing the envelopes containing messages, I am to state that the gummed envelopes were introduced with a view to expedite business, that the gumming is done by machinery and that the arrangement is not considered insanitary."

An Appeal.

Mr. H. E. ABBOTT, Proprietor of the *Indian Planters' Gazette*, wrote recently:—

"I feel sure the enclosed sad case will meet with the compassion of all our brothers in tea; might I ask you to very kindly circulate the

matter among the members of your Association. We have found that sending round a book by a peon from factory to factory has had good results; the case is so very cruel that I am sure every one of you will gladly contribute your mite. Of course expenses of book and peon going round should be deducted from the contributions."

(Copy of Inclosure).

A SAD CASE.

"In our issue of the 31st July, I published the following appeal. It is no longer a secret that poor Mr. W. M. Vipan, of Cangowlee, is afflicted with total and hopeless blindness, and will in consequence be unable to continue as a planter. Fortunately he is blessed with an able and most energetic wife, who is not one of those to give way under misfortune. She has resolved to open a boarding-house in Darjeeling and hopes through this to be able to keep herself and husband and to pay for the education of her two boys who are already at St. Paul's School. To enable her to do this assistance is necessary. We are sure all who know the poor 'Tosser' will cheerfully contribute their mites for such a worthy object; for he has always been a steady, conscientious and hard-working planter who is universally liked and respected. The affliction is far harder on one full of energy and impetuosity than it would be to a man of a more lethargic nature, but he is bearing it with marvellous patience and fortitude. We earnestly ask in this truly deserving case, not only for the charitable assistance of indigo planters and agents, but also from large-hearted Europeans outside the Guild, who can feel for one thus in the prime of life unable any longer to support his wife and three children. *Bis dat qui cito dat.*"

"Our list will be entirely separate from one being got up among the members of the Behar Planters' Association, and we shall publish weekly the amounts received. We ask the aid in this most sad case of every reader of our Journal who sees this note. Mr. Filgate suggests some employment being obtained for Mr. Vipan, but what can a totally blind man possibly do, however willing he might be to work. All that can be done is our suggestion that Mrs. Vipan should run a boarding-house in Darjeeling, which she has decided to do, and for this a largish amount of money will be wanted to buy furniture, crockery, etc. We are sure Mrs. Vipan will succeed in her plucky venture for she is able, careful, business-like, and very energetic, but of course for the first year or two she will have an anxious time."—H. E. ABBOTT, in *Planters' Gazette*.

The above appeal was passed on without delay to the Councillors of the Association and is now brought to the notice of a wider circle of planters.

A contribution of Rs.30 from Mr. H. P. Hodgson has been remitted to Mr. H. E. Abbott, whose address is—

Jointpore,

via Motipore P.O.,

Tirhoot State Railway.

The Secretary, U. P. A. S. I., will gladly forward any further donations that may be sent to him.

Coffee Curing and Freights.

The Resolution on the above subject that was adopted at the last Annual Meeting was communicated to various firms.

Messrs. Volkart Brothers, of Tellicherry, replied as follows:—

"We have the pleasure to inform you that we are favourably disposed towards the movement initiated by your Association at their last General Meeting, and having in view reductions of charges for curing and freights, and that we shall be glad to acquaint such Planters who will address us individually on the subject with our lowest charges."

All the other replies received have given a decision against a reduction of curing charges. One of them contains the information that the following firms of Coffee Curers recently unanimously decided that the existing rates for curing and shipping coffee shall be maintained :—

Messrs. Killick, Nixon & Co., Messrs. A. J. Saldanha & Sons., Messrs. P. F. X. Saldanha & Sons., Messrs. Peirce, Leslie & Co., Ltd., Messrs. Ferguson & Co., Messrs. T. Stanes & Co., Mr. E. Templeton Wright, and Messrs. Morgan & Son.

It is urged on behalf of this decision that the cost of curing has increased greatly during the last 20 years; labour has become much more expensive and difficult to obtain; garbling owing to deterioration in quality is much more expensive, and gunnies are dearer, notwithstanding which the charges have not been increased. One Firm writes :—"Considering the costs of a large establishment which has to be kept up, interest on Capital invested in the Works, Income tax, &c., the present rate shows a much smaller margin of profit—taking good seasons with bad—than our planting friends seem to imagine."

Another Firm remarks :—

"A review of the history of the business derived by firms from their connection with Planting industries during the past 40 years, would shew, that like the planters, theirs has not been a bed of roses. It would show that several Firms have been obliged to drop out altogether. It would shew that garbling is a much more serious operation now-a-days with most of our qualities than it was some years back, that to keep pace with present day requirements, of rapid but very careful preparation and strict grading, closer and more costly supervision is required; much larger premises and barbecues are required to do a given quantity, that cost of land, building materials, packages and labour, is steadily increasing and is likely to continue to do so. It should also be borne in mind that while as above-stated relatively larger and more expensive premises, &c. have to be maintained, the quantity of coffee to be dealt with shews a steadily decreasing tendency in most districts, and that not only is the working season a short one, in most cases lasting about 4 months, but there is extensive variation in the size of crops.

"We have seen prices for most of our descriptions of coffee decidedly worse than they are at present, we have also seen them decidedly better. We have seen such like questions as those which form the subject of your circular raised in bygone years, and at times when the outlook for Planting industries generally was truly dismal. Then, as now, curing firms reckoned among their number men who had been themselves planters, some for considerable periods, men able to sympathize, in the fullest sense of the term, with the anxieties and troubles of those whose industries were passing through times of severe depression. Notwithstanding those adverse circumstances, the leaders of the Planting industries who then voiced the views of the Planting communities, after fully thrashing out these questions with the firms, were satisfied as to the reasonableness of the latter's charges.

"In the matter of freights all the Steamer Lines which supply a regular service at short intervals have contracts running up to the end of the year. Rates for the following year are generally declared annually about the month of November."

The Theni Bridge, &c.

A letter from the President of the Madura District Board, states :—

"With reference to your letter of the 11th instant, I have the honour to refer you to this office letter Dis. No 261, dated 10th February, 1909, in regard to the bridge over the Theniar and to state that the sanction of Government has not been received as yet. As regards the Ghât road between Karavanuth and Kumili, the Public Works Department is now responsible for this section, as the road was handed over to that Department in August last, under the orders of Government."

Representations have now been made to the Secretary to the Government of Madras, Public Works Department.

Non-Service of Warrants.

Dealing with the Resolution adopted at the recent Annual Meeting of the Association regarding the failure to serve warrants and summonses by process-servers and the Police, the Madras Government inquire whether the Association can furnish the Government with a list of cases in which warrants and summonses have not been duly executed by process-servers and the Police, or, if this is not possible, whether they can specify the districts and taluks where the omissions complained of mostly occur.

Specific information on these points is desired from all planters interested in the matter.

The Renard Road Train.

Mr. Kenneth Buchanan, Secretary and Manager of the Renard (India) Transport Corporation, Ltd., and Captain Lethbridge called on the Secretary on the 25th September. In view of the recent statements of the Hon'ble Mr. Stuart Fraser, Mr. Buchanan is of opinion that no meeting with planters would be of advantage. For the present the question of starting Renard Road trains to serve the planting district of Coorg—and perhaps to be of benefit also to planters in South Mysore—rests with the Madras and Southern Mahratta Railway Company, and it is to be left with them.

However, it has been suggested that planters—in any part of Southern India—might kindly indicate any line or lines of route that seem to offer scope for the Renard Road train; and that, in particular, the possibilities of the North and South Mysore districts should be studied.

Together with any indication of a promising line of route it would be well to have estimates of traffic—passengers as well as goods—as well as notes of any specially steep gradients or difficult turnings. Information from the various planting districts as to needs and probable traffic figures would perhaps serve the useful purpose of enabling the U. P. A. S. I. to make suggestions and to press the claims of particular areas.

It may be said that there seems little prospect of this train showing successful results where the traffic all sets in one direction: return freight—to the extent of half loads, at any rate—appears to be essential to its financial prosperity.

The only limitation of the Renard Road train's capabilities that calls for notice is, that it cannot carry timber (or other materials) of a greater length than about 16 feet, though it can take the weightiest minerals as well as the lightest commodities.

That the Renard Road train would test—and in some cases help to develop—the traffic capacity of a locality can scarcely be open to doubt; and it is possibly as a “feeler” and a “feeder,” or a pioneer, that it will be of most use to the Planting communities of South India.

Arsikere-Mangalore Railway Project.

In a letter dated the 27th September, the Secretary to the Government of Madras, P. W. D. (Railway), stated, that the Memorial from the U. P. A. S. I. on the above subject received with letter of the 24th July, 1909, was forwarded to the Government of India (Railway Board). He then said:—

“In reply I am to inform you that the Government of India, while recognising the importance of providing a link between Mysore and the West Coast, regret that owing to the prior claims of more important projects both in the Madras Presidency and other parts of India, they are unable to find a place for it in the Railway Construction Programme in the near future. This programme includes all Railway projects involving either direct expenditure or any financial liability to Indian revenues, and it has so many claims on it of a stronger nature than those of the Arsikere-Mangalore line that there is no prospect of the latter line finding a place in the programme for many years to come. Should, however, any private Company come

forward with proposals to finance the construction of the line on Branch line terms not involving a firm guarantee, the Government of India will be prepared to give their proposals sympathetic consideration."

Seeds of the new varieties of Rubber.

The Economic Botanist, Superintendent of Government Gardens to the Government of H. H. the Maharaja of Mysore, states that, being desirous of introducing the *Manihot dichotoma* and *Manihot piauhyensis* on a large scale, he wrote to the exporters in South America to let him have a few thousand seeds of each of the above rubbers. But as they refused to supply such a small number, he had to order a larger quantity than was required. He would therefore be glad to sell these to intending planters and book orders at Rs.10 per 1000.

Cover Plants Instead of Clean Weeding.

Apropos of the Scientific Officer's recent comments on Cover Plants, the following remarks are extracted from the Report for 1908, Mr. J. B. Carruthers, Director of Agriculture and Government Botanist, Federated Malay States :—

"The question as to the relative advantages of clean weeding and the use of cover plants (the use of which has been advocated in my Annual Reports for the last three years) is gradually being seriously considered by the practical planter, and many thousands of acres of rubber, certainly not less than 15,000 are now cultivated with various cover plants.

"It needs but little observation of rubber clearings to decide that an immense amount of top soil, containing a large proportion of humus, has been washed away from sloping land to the detriment, both present and future, of the rubber. An examination of the water in the drains of flat land, which is dark-coloured when the clearing is first opened and gradually becomes clearer when many tons of water have passed through the soil, will show that this same process of exhaustion of the soil is going on very rapidly on clean weeded flat lands, though not to the same extent as on the hillsides.

"Most practical planters have observed that the roots of plants in the tropics grow more quickly and vigorously when the earth where they are growing is shaded from the sun, and for this reason the surface of nurseries is covered with a thatch of grass or other convenient covering.

"These arguments seem in themselves sufficient to induce a trial of cover plants; but the additional argument that the process of clean weeding is continuous and the most costly of all the work on a rubber estate before it comes into bearing should be a further reason for the adoption of the system of cover plants.

"Various cover plants have been used on acreages varying from 400 acres, and practically in all cases with successful results.

"It is unfortunate for the increase in the belief in this method of rubber cultivation that a large number of the planters who tried cover plants did so on the weediest and worst-drained parts of their estates. It would be as fair to test a food, which is recommended for supporting working men, on emaciated and abnormally weak persons, and when it did not produce the results hoped for, deeming it a failure.

"Another reason for some planters not finding the use of cover plants so perfect a substitute for weeding as they hoped was that the cover plant (very often *Crotalaria*) was sown broadcast, and it has been found by experience over large areas that this method of planting cover plants is wasteful and very much less effective than sowing the seed by dibbling, planting in furrows, or similar methods. The loss may be due to the exposure of the germinating seed to the sun, or to its being washed along when the tender rootlets are beginning to form, or birds may eat the seed, but whatever is the cause it is always found that the proportion of seed-producing plants is very small indeed.

"On the other hand, the planting in lines, the seed being slightly covered, results in 80-100 per cent. of the seed producing healthy plants.

"In planting cover plants on steep land it is imperative that the lines should follow the contour of the land; when they are made to run up and down the hillside the seed will be washed down with the loosened earth. This results in the seed being massed in one place, and the young plants growing closely together in clumps at the foot of the lines.

"The use of cover plants in place of clean weeding is now, after three years' constant advocacy, very generally considered as an economical and practical practice, which I have no doubt will greatly increase when the benefit to the rubber and the saving in expense have been proved on a large number of estates.

"The relative advantages of various plants as cover plants for rubber clearings is an important question to decide before proceeding to lay down fields, with one or other. Leguminous plants possess the property of increasing the amount of available nitrogen in the soil by means of bacteria living in their roots which obtain nitrogen from the air, and in this respect should be preferred to other plants.

"The chief thing to consider in laying down a cover plant is rapidity and cheapness in thoroughly establishing it, and if a plant is found to quickly take possession of the soil and cover it to the exclusion of all others, the fact of its not being leguminous should not weigh against it.

"The ideal plant for the purpose of protecting rubber land and eliminating or reducing very considerably the weeding bill is a plant which grows not more than a foot to 18 inches high, is permanent or persistent for three or four years, producing shade over the ground, growing so luxuriantly as to exclude weeds without forming a thick turf, is leguminous, has no thorns or spikes to interfere with coolies working, has no leaves, fruit, or flower which will attract vermin or other animals.

"None of the plants at present in use, or being tried in the experimental plots of the Agricultural Department, fulfil absolutely all these requirements, and it is probable that a plant will yet be found better than any at present tried.

"The conditions on different estates in Malaya do not vary very greatly, but the differences are sufficient to make some places specially favourable to one cover plant and other places to other plants.

"In different districts on sloping and flat land with different soils and some estates it is found, that in some passion flower will thrive and rapidly cover the land where the sensitive plant or *Crotalaria* do not grow vigorously. On other places the *Crotalaria* or sensitive plant may do much better than passion flower.

"It is easy to decide as to the most suitable plant by planting one or two trial plots. The following plants all have advantages in different ways, and if any one of them can be made to entirely cover the ground in a short time, say four or five months, its acquisition will be a great gain to the estate in improving the growth of the rubber and in reducing the wages bill.

"*Abrus precatorius*, a native of India, where it is used for cover, is leguminous with a free creeping habit; it grows about one foot above the ground and the branches from one plant will spread to 15 or 20 feet from the main stem. The pods contain 6 or 8 seeds. The seeds are bright vermillion, about the size of buckshot, with a small black mark at one end; they are used as the karat or standard weight for precious stones and metal in India.

"*Passiflora foetida* (passion flower creeper), a creeping non-leguminous plant having purple white flowers and yellow fruits about the size of a walnut, grows very freely on nearly all soils and smothers many other plants of a less vigorous habit. The creeper never gets more than about nine inches to a foot high, and very quickly covers the ground. It has to be kept from twining round young rubber plants, but as it is very soft this can be done at extremely small cost. It is a native plant and common all over the Peninsula,

"*Crotalaria striata* and another species of the same genus, *Crotalaria incana*, are leguminous plants, possessing usually very numerous and large bacterial nodules, and growing freely, when not cut, to 7 or 8 feet high. It (*Crotalaria striata*) has a yellow flower and a light green leaf, and affords a good cover if not allowed to grow high and scraggy. It should be kept cut to a height of about 2 feet 6 inches. The cutting is not a costly process as it is only necessary to slash over the tops, leaving the cut part to remain as a mulch on the soil. The seed is obtainable in almost any quantity as a large acreage is already planted.

"*Tephrosia purpurea* and *Tephrosia candida* are both vetch-like leguminous plants which grow freely on almost any soil, and give perhaps a better cover than *Crotalaria*. They must, however, be slashed over at a height of 2 to 3 feet, and not allowed to run up, otherwise the light, and with it the weeds, will gain an entrance.

"*Mimosa pudica*, the 'sensitive plant,' a leguminous plant with red spherical flower heads and spiny fruits, is in many ways the most suitable plant as yet tried for cover. The chief reason which makes it disliked by planters is the presence of thorns on its stems which are unpleasant to coolies walking through it.

"The habit of this plant of shutting its leaves in heavy rain and at night is an advantage, as no rain is lost, and dew falls on the ground. It never grows more than about two feet high; it persists and makes a dense cover over the ground when the leaves are not shut, i.e., when the sun is shining and the plant is not disturbed. It is, though a native of South America, common in all the planting districts, and one of the first plants to take possession, and keep possession, of their roadsides.

"In addition to these plants I have recently been shown a creeping leguminous plant which was found by Mr. H. F. Brewell, of Damansara Estate. It is a species of *Vigna*, having dark green leaves and making a dense cover which refuses to allow any weeds to exist. I have seen a patch of about half an acre on Damansara Estate, and there it appears to be the best plant for the purpose of cover that has been used in the Federated Malay States."

Further information is contained in the Report of Mr. S. W. Campbell, Superintendent, Experimental Plantations, Selangor, from which the following is taken:—

"The question of a substitute for weeding continues to attract a good deal of attention. Several experiments have been carried out with a view of finding suitable plants for this purpose, the best way to plant them, etc.

"*Crotalaria*.—This is probably one of the most popular cover plants at present, as not only does it cover the ground, but it also enriches it by adding nitrogen, and, when cut, renders a good deal of material available for mulching.

"Early in the year a portion of steep slope, about half an acre, was planted with *Crotalaria*. The seeds having been planted as follows: Every 15 inches in all directions a mamotti of soil was turned over and broken, and in places so dug up a small hole was made and two or three seeds dropped into each. The result is that the slope is well covered, no weeding has been done on this portion for eight months. The plants have been cut over three times, the green tops having dropped through are allowed to remain as a mulch; this I have found to be the cheapest and best way to plant hard-backed slopes.

"The cost per acre for planting works out at 20 coolies per acre per day.

"*Sowing Broadcast*.—A large area was sown broadcast with *Crotalaria* seeds on hill lands in Kuala Lumpur plantation, it was a complete failure, but on the flat moist land at Batu Tiga it was quite a success. A trial was made with sowing *Crotalaria* in shallow lines on hill land, but was only successful where the soil was fairly soft. On hard ground the seeds germinated, but only grew an inch or two high and died off. An experiment was carried out to find the best method of sowing *Crotalaria* on ordinary flat or gently undulating

(not moist or wet) land, and the quantity of seed required per acre was as follows:—

- (a) Seed sown broadcast, 4 lbs. per acre.
- (b) " " " 2 " "
- (c) Seeds dibbled in 1 foot apart, 1 inch deep.
- (d) " " 6 feet " "
- (e) " " 18 " " "
- (f) Seeds sown broadcast and raked over.

"The plots were each a tenth of an acre, and were those of that which had been used previously for tapioca experiments, and were, therefore, in good condition for seed sowing. The best results were obtained in plots (c), (d) and (f). The best methods for planting appear to be, judging from experiments, carried on during the year :

- (1) For hill lands or any ground with hard surface, holes cut one changkol deep, about 15 inches apart, and seeds dibbled in ;
- (2) For ordinary slightly undulating land, seeds dibbled in one foot apart ;
- (3) On flat land with loose surface, seeds sown broadcast (2 lbs. per acre) and raked in ;
- (4) On wet low-lying land, broadcast (2 lbs. per acre).

"There are two very marked varieties of *Crotalaria* in general use on estates, viz., *Crotalaria striata* and *Crotalaria incana*.

"*Crotalaria striata*.—The plant generally known as *Crotalaria striata*, is a quick-growing variety, which has small leaves and runs to seed quickly. This plant never makes a really good cover plant.

"*Crotalaria incana*.—This plant, is a much stronger grower than the above the leaves are much larger and the plant is slow to run to seed ; it therefore serves its purpose as a cover plant for a much longer period, and gives, when cut over, much more material for mulching.

"*Mimosa pudica*.—A good deal of attention has again been given to this plant and several experiments have been carried out with it, both with regard to its value as a cover plant, and as a green manure. In Batu Tiga about six acres of it have been planted up. The plants have made a dense cover and have succeeded in keeping in check all weeds, exceptalang.

"This pestilent weed, which was in the ground or in the immediate neighbourhood before the experiment started, seems to take complete possession of the plots wherever it comes up. The ground in whichalang patches were growing was dug up and the roots picked before the plants were put in.

"The *Mimosa* had made good headway before thealang got up, but once the latter began to get away it grew and spread rapidly, and now looks like killing out the *Mimosa* which was at one time a dense mass over a foot high. On the other hand, in some places where there was noalang before planting, none has come up.

"Except where it encroaches from an adjacentalang patch it is possible that if the ground were covered up as soon as burnt off, and beforealang had time to get in, that it might then act as a preventive and keepalang out ; but of this we have as yet had no opportunity of judging.

"Three plots of *Mimosa*, each a tenth of an acre, were cut over to six inches above the ground once during the year and the fresh cutting weighed with a view to finding the amount of mulching material rendered available by this process.

"The plots cut over were about 10 months old and well covered, the average total of mulching material worked out at 2,950 lbs. per acre.

"*Desmodium triflorum*.—This plant which gave some promise last year, and which, if established, would make an ideal cover plant, has been given up

owing to its liability to attacks of insect pests. The difficulty of establishing it would also make it impracticable for estate work.

"*Tephrosia*.—Two species of *Tephrosia* (*Candida* and *Purpurea*) have been tried during the year, both of which are very much alike in habit. The plant grows about 15 to 30 inches high. It has the advantage over *Crotalaria*, in that it is dwarfer in habit and therefore better adapted for planting in young clearings.

"*Tephrosia candida*.—A small supply of seed of this plant was received and sown in September. The seeds germinated well and were up in a week, the plant grows quickly to a height of about 15 inches, after which upward growth was slow and the side-growths began to develop. The ground was well covered about two months after sowing. At the end of the year the plants showed no signs of seeding.

"*Tephrosia purpurea*.—The remarks referring to *Tephrosia candida* may also be said to apply to this plant in every detail. The only difference noticeable so far, is that within three months of sowing the plants of this species flowered and carried a fair crop of seed.

"In this way the former plant possesses an advantage over the latter, as the longer the fruiting season of green manure or cover plant is delayed, the better suited is the plant for its purpose.

"*Passiflora foetida*.—Several experiments with this plant, which has the reputation of being able to kill out lalang, have been commenced during the year.

"In Batu Tiga, a field of old lalang was taken up, and rentices, six feet wide were cut through, changkollod, and planted with *passiflora*; six feet of lalang was left between each rentice. It is hoped that the *passiflora* will be able to eventually smother down the lalang. Records of progress in this direction are being kept.

"Early in the year a plot of one acre of hilly lalang land was changkollod over, and planted with *passiflora*, about two feet apart every way, the plants all struck and appeared quite healthy, but subsequent growth was very slow, and the result, on the whole, disappointing; at the end of the nine months the ground was not nearly covered. Another acre was tried on clean hilly land with a view of testing its suitability for preventing weeds and stopping wash in rainy weather. In this case also the plants made poor progress.

"My experience of this plant is that on low-lying land, continually moist, it makes rapid progress, but that in places where the ground is at all hard and it is subjected to occasional period of drought, its growth is so slow that it is not worth while planting it, especially when subjects like *Crotalaria* or *Tephrosia* (the latter for preference) are available.

"Plots of various peas, bought from Tamil kedais, were also tried for green manure purposes, but results were not satisfactory, chiefly owing to the seed being too old and having lost its germinating power.

"*Abrus precatorius*.—Still another cover plant which has been under observation during the year is *Abrus precatorius* (crabs-eye), a leguminous plant of prostrate or climbing habit, the plant lies close to the ground when there is no support, but quickly climbs over any support it comes in contact with. In structure the leaves somewhat resemble *Mimosa* and are of a light green colour. The plant possesses an advantage over *Mimosa*, in that it is devoid of thorns, and therefore makes it quite easy for coolies to go amongst it, up to the present we have only had a small nursery plot of this plant; it, however, seeds freely and a large area will be put out as seeds ripen.

"The only disadvantage with this plant (that a serious one) noted up to date is that as soon as it comes in contact with the stem of a plant it quickly climbs, and if not watched would soon smother out plants growing amongst it."

Scientific Officer's Papers.

V.—BENGAL BEAN AND SCALE INSECTS.

In my Report upon my tour in the Nilgiri Hills, published in the September Number of *The Planters' Chronicle*, in connection with the attack of *Lecanium viride* upon Coffee, the use of Bengal Bean in dealing with Scale Insects in Montserrat, B. W. I., was mentioned. The following account of the method, which was recently published in the *Agricultural News*, the official organ of the Imperial Department of Agriculture for the West Indies, will prove of interest to planters:—

"The Bengal Bean (*Mucuna pruriens*, var.) is closely related to the Velvet Bean, and the weed known as 'cow itch.' It is a strong, vigorous growing species capable of making a dense covering on the land, and even over other plants. The Bengal Bean was at first used at Montserrat purely as a green dressing on account of the large amount of organic matter which it returns to the land, and because of its ability, in common with other leguminous plants, to gather atmospheric nitrogen. It was discovered by chance that certain trees, which had been in a dying state for some time past as the result of attack by scale insects, showed themselves much improved in general vigour and freedom from scales after the Bengal Bean plants had climbed over them and covered their branches for a year or two. Since then extended trials have been made with Bengal Beans, and it is reported that good results always follow, and that the results are better the more completely the beans cover in all the trees. The practice in Montserrat is to plant four or five beans around each tree at the time of the first rains in May or June, and to allow them to grow until the beans are ripe in the following March or April. The stems of the beans are then cutlashed near the ground, and any portion of the vines that hangs free from the trees is cut off, but the mass of vines on top of the tree is not disturbed. No attempt is made to remove it.

"Up to the present time this has been tried only on Limes that were badly infested with Scales before the beans were planted, and it has been found that many of the scales—perhaps most of them—were dead when the beans were cutlashed. In addition to this, it has been observed that the Limes have made particularly vigorous growth immediately after the beans have been cutlashed. It often happens that none of the Lime shoots show above the mat of bean vines at the time they are cut, but within a few weeks strong vigorous shoots, 6 or 8 feet long, may be seen, which have penetrated the dead bean vines. So far as observation goes, this growth is healthy, and the improvement in the trees fairly permanent. One field which received this treatment some seven years ago, and has had no spraying or other treatment of similar kind since, is remarkably healthy and free from scales. One drawback to this method is that the covered-in Limes give a short yield for that year.

"Although it is known what results follow when Bengal Beans are allowed to climb upon Lime trees, the exact reason why these results come about is not known. It seems likely that the covering of beans maintains a moist condition beneath it, and in this way encouraged the growth of those fungi which attack and kill scale insects. It is likely also that the conditions under this canopy of bean foliage are favourable to the insect parasites of scales, and enable these to multiply more rapidly than when the trees are exposed to the strong winds which, during a large part of the year, blow across the island of Montserrat.

"Fungus parasites and insect parasites of the scales, or in other words, the natural enemies of the Scale Insects, are present and are encouraged by the covering of Bengal Beans. It would seem, however, that there must also be some other agency in operation favourable to the Lime trees, for the killing off of the Scales could hardly account for the remarkable vigour of the new growth of the Limes, which follows immediately after the cutlashing of the beans. Possibly the rest, or partial rest, that the trees have had, while covered, would account in some measure for this vigour."

It is suggested that experiments should be conducted on similar lines with Coffee badly infected with Scale Insects. Enquiries are being made as to where seed of Bengal Bean can be obtained,

DISTRICT PLANTERS' ASSOCIATIONS.

Mundakayam Rubber Planters' Association.

Minutes of Third Quarterly Meeting held at Yendayyar Bungalow, by kind permission of Mr. Murphy, on July 24th, 1909.

Present :—Messrs. J. A. RICHARDSON (*Chairman*), R. HARLEY, A. HAMOND, J. J. MURPHY, W. A. ASHER, G. ATKINS, J. R. VINCENT, J. GUDGEON, A. E. VERNEDE and C. W. E. VERNEDE.

Visitors.—Messrs. R. ROISSIER, J. F. FRASER, F. E. THOMAS, and R. E. HASLAM (*Honorary Secretary*).

The Minutes of the last Meeting were taken as read.

Delegates to the U. P. A. S. I.—*Resolved* that for the forthcoming Meeting the following represent the Mundakayam Rubber Planters' Association :—Messrs. J. A. Richardson and K. E. Nicoll; and Rs.150 was voted towards their expenses.

Motor Transport.—As this scheme had been before this Association for some time, it was decided to form a Committee to consider same, and Messrs. Murphy, Harley, Vincent and Atkins were elected Members.

The Lady Amphill Nursing Institute.—*Resolved* that a list be circulated for subscriptions towards this Institute, and a sum of Rs.100 was raised in the room.

Scientific Officer Fund.—It was unanimously agreed that our subscription be raised to Rs.100.

Royal Trees on Rubber Estates.—It was decided to let this matter stand over until the next Meeting, as further information was required as to the system at present in vogue of measuring these trees.

Labour Rules and Rates.—Proposed by Mr. Vincent and seconded by Mr. Asher: "That as regards rates that clause be hereby rescinded."

The Kottayam and Eratupettah Road.—Mr. Asher proposed and Mr. C. W. Vernede seconded: "That a letter be written to the Executive Engineer pointing out the immediate necessity of repairing the bridges between Palai and Eratupettah."

Kutikal Road.—Proposed by Mr. Murphy and seconded by Mr. Vincent: "That it would be beneficial to the district to have this road extended to Eratupettah."

Medical Officer Scheme for the Peermade and Mundakayam Districts.—Messrs. Richardson, Murphy and Harley were appointed as a Committee to consider this scheme.

All Members present agreed to take a bound copy of the *Planters' Chronicle*, and of the yearly Proceedings of the U. P. A. S. I. Meeting.

With a vote of thanks to the Chair the Meeting terminated.

R. E. HASLAM,
Honorary Secretary.

Wynaad Planters' Association.

Proceedings of a General Meeting held at Mepaddi Club, on Wednesday, 1st September, 1909.

Present :—Messrs. ATZENWILER, BEHR, BISSET, W. R. MCKENZIE, McLEOD, POWELL (Jnr.), TROLLOPE, WINTERBOTHAM, and B. MALCOLM (*Honorary Secretary*).

Visitor :—Mr. C. B. HALL.

Mr. A. TROLLOPE in the Chair.

The Proceedings of the last Meeting were taken as read.

1498. *Attesting Labour Contracts.*—It was recorded that Messrs. Elphinstone, Bell and Ewart had been authorised to attest Labour Contracts.

1500. *Labour Law.*—READ letter to District Magistrate *re* Mr. Behr's case and his reply recorded. Honorary Secretary instructed to inform members of the District Magistrate's opinion on the case.

READ letter from Mr. Behr *re* the ruling of the Deputy Collector *re* Section 29 of Act I of 1903—*Recorded*, and Honorary Secretary instructed to inform members of the ruling.

READ letter from Mr. West, quoting the 2nd-class Magistrate's ruling *re* C. C. 142 of 1909. The Magistrate having refused a fresh warrant for a discovered defaulter on the grounds that three years had expired from the date of the making of the contract,

Resolved:—"That the Honorary Secretary do refer the matter to the District Magistrate for opinion, as Proceedings had in the first case been instituted within the period of the contract."

READ Mr. West's letter *re* the 2nd-class Magistrate's request for withdrawal of the above case.—*Recorded*.

1501. *Roads.*—READ letter of July 15th, 1909, to District Board Engineer.—*Recorded*.

1502. *Rinderpest.*—READ letter to 2nd-class Magistrate *re* supply of serum and his replies.—*Recorded*.

READ Circular from Collector of Malabar *re* prevention of Rinderpest.—*Recorded*.

1503. *Police and Coffee Duty.*—READ letter from the Deputy Inspector-General of Police, dated 15th July, 1909, and reply.—*Recorded*.

1504. *Presidency Manure Works.*—READ letter from Messrs. Parry & Co.—*Recorded*.

1506. *Tea Freights.*—READ letter from Messrs. Parry & Co., Madras.—*Recorded*.

READ letter to the Traffic Manager, S. I. R., Trichinopoly, applying for a reduction of freight on Tea between Calicut and Ernakulum-Cochin—and his reply saying the freight would be reduced from 4 as. 8 pies to 3 as. 1 pie per maund for tea in any quantity at owner's risk.—*Recorded with satisfaction*.

READ letter from District Traffic Superintendent, S. I. R., Calicut, *re* the quantity of Tea railed from Calicut to Madras, and reply. Honorary Secretary's reply *confirmed*.

READ letter from District Traffic Superintendent, S. I. R., Calicut, stating that in future the concession of 6 as. per maund allowed on railage of Tea from Calicut to Madras will apply to any quantity.—*Recorded with satisfaction*.

1507. *Vayitri Hospital.*—READ letter from President, Taluk Board, and reply, also second letter from the President, Taluk Board, in reply to the Honorary Secretary's letter. Honorary Secretary instructed to reply strongly protesting against any change being made in the status of the Vayitri Hospital.

1509. *Darkhast Lands Rules.*—READ letter from the Collector of Malabar with copies of the Deputy Collector's and District Forest Officer's Reports.

Resolved:—"That the Association is of opinion that the new Rules should remain in force, and the timber should be sold to the highest bidder as at present. It considers there is no market in this district for any but the most valuable timbers; and that the prices fixed by the Forest Department, never have and never will be realized. It thinks the falling off in sales referred to has not been caused by the imposition of the new Rules, but probably by the high valuations placed on the timber."

1510. *U. P. A. S. I. Planting Member.*—The Association records with satisfaction the appointment of the Hon'ble Mr. J. G. Hamilton as "Planting Member."

Delegate's Report.—Mr. Malcolm read the following Report on the Bangalore Conference :—

The Proceedings of the Bangalore Conference were so fully reported by the papers that you already have all the information there is, so I will confine my Report to summarizing what took place on important matters.

Alteration in Rules.—This was a matter carried over from the previous year. This Association had passed a Resolution in September, 1908, approving of ex-Planting Members and ex-Chairman being allowed to attend Meetings, but not to vote. My resolution at the Conference went further than this proposing that ex-Planting Members, ex-Chairman, and ex-Vice-Chairman, should not only be allowed to attend Meetings, but to propose resolutions or amendments, and to vote; and that in that case they do pay an annual subscription of Rs.15.

1. It appeared to me on consideration that it would be of obvious advantage, and to the general interest of all to have the practical assistance of members who had previously taken responsible parts in the affairs of the Association.

2. The objection to allowing them to vote was as pointed out by the Chairman removed by no important action being taken by the United Association on a close division.

The Planting Member.—A letter was read with reference to the method of electing the Planting Member for the new Councils, and it was asked that the members might be elected by the United Planters' Association in the terms asked by the Government.

Ceylon Labour Commission.—Mr. Farquharson made an interesting statement on behalf of Mr. Norman Rowsen from which it will be seen that it is the very evident desire of the commission to work in harmony with the Southern India Planters; and that if it is suspected that advanced labour is bolting to Ceylon, steps would be taken to trace the cooly through the records of the Commission on the matter being brought to its notice.

Liquor Shops on Estates.—The Resolution in favour of asking that Government should consult planters before allowing liquor shops to be opened in planting districts excepting in recognised public markets was *carried unanimously*.

Scientific Officer.—Mr. Ainstead gave an interesting lecture on leguminous plants and suggested the possibility of local leguminous plants, of which he thought there were probably many varieties if looked for, being found useful for green manuring.

Mr. Ainstead's headquarters will be in Bangalore and arrangements have been made by which he will have the assistance of the U. P. A. S. I. Secretary's Office, the two being run jointly.

It is a matter for congratulation that the authorities of the Indian Institute of Science are prepared to co-operate with the Scientific Officer, and to endeavour to arrange to afford him the required accommodation in their laboratories to enable him to carry out his investigations. If this arrangement is carried out the accommodation will only be available when the Institute is ready. In the meantime a Resolution was carried asking the Mysore Government to afford him accommodation for his work in the laboratory recently occupied by Dr. Lehmann.

Roads and Communications.—Since the date of the last Meeting of this Association, I saw a letter in the *Madras Times* drawing attention to the present position as regards the Calicut Pier. As you are aware the Pier was considerably damaged. The question of what will be done as regards its renewal or removal, and whether there is likely to be any reduction or increase in charges caused thereby are matters that effect us closely. I consequently proposed the Resolution you have seen which was supported by the Nilgiris, Anamalais and Shevaroy's Associations, and carried unanimously. It is to be hoped that the Government will institute a careful

enquiry considering all the interests concerned, before coming to a final conclusion.

Renard Road Train.—There seems some chance of the Renard Road Train being tried in South Coorg, and Mr. Buchanan will very shortly be in Bangalore and ready to meet Planters interested there.

Pests and Diseases—Pepper Vine Disease.—The Scientific Officer and Dr. Butler will both visit this District in November to study the Pepper Vine Disease more especially and Mr. Anstead will at the same time get to know the District and its members and consider any other matters that may be brought to his notice.

Green Bug.—Mr. Anstead has stated that the only way to combat the Green Bug on the Nilgiris was with the help of a Pest Act, and District Associations are asked to consider the drafting of an Act. From all I heard the ravages of this pest are causing immense damage and loss on the Nilgiris, and we should keep a careful look-out for any appearance of it in this District. To check its spread nothing short of the total destruction of all the leaves and branches of the affected tree seems to be of any use.

Labour—Mr. Brodie's Case.—As you are aware I had written as a Councillor of the U. P. A. S. I, giving my opinion that this case should not be taken to the High Court, as the ruling of the Nilgiri Assistant Magistrate appeared to be quite in accordance with the reading of the Act; and this Association confirmed my view.

My reason for supporting the Resolution proposed by Mr. Barber was that it did not aim at getting a revision of the case but at obtaining a ruling as to whether the section was *intended* to apply to such cases of crimping as the one in question. There seem to be some grounds for thinking that the section when being considered by the Select Committee was intended to be applied to such cases. The Meeting, however, considered the matter should not be taken to the High Court and the Resolution was lost.

Labour Committee Report.—The Chairman formally proposed the adoption of the Report, when the delegate from the Nilgiris proposed the following Amendment: "That this Association urge upon the respective Governments the simultaneous introduction of Act I of 1903 or such Acts based on the same principles, as Native States may adopt in all planting and recruiting Districts." This Amendment, as you are aware, I supported as strongly as I was able to.

In view of the last Resolution on this matter passed by this Association on August 5th, 1908, since when no further Resolution has been passed, my action in supporting the Nilgiri Resolution requires some explanation. As you know I wished to bring forward a Resolution at our last Meeting by which the Association should instruct me to move for the general adoption of Act I of 1903 at the Bangalore Conference, and in deference to the wish of the Meeting I dropped it as the Meeting thought that there were too few members present to decide the question.

I have known for some little time that the trend of opinion in this District as regards Act I was undergoing a change.

From further information collected after the date of the last Meeting I found that a large number than I first supposed were in favour of its general adoption. As I will show your Chairman those members favouring the Act represented such large interests that I felt fully justified in taking the action I did.

Other considerations that weighed with me were—

1. That the Resolution was brought up at the instance of an Association not under the Act, but that wanted it.

2. That in so far as the working of the Act in this District is concerned, the whole of the information available shows that the Act is particularly useful as between the maistry and the cooly, and there is no evidence at all to show that it works harshly.

3. From the results of a case recently taken out at the instance of Mr. Wapshare of the Ouchterlony Valley, against certain crimpers, the Act gives considerable protection against the crimping of labourers. This case has been published.

4. That though the Act has now been in force for some time, and on its trial, no single case of the several disadvantages the Planter was afraid of has occurred, or if it has occurred has ever been brought to the notice of this Association, and it can be consequently assumed that the Act works smoothly.

5. That the Labour Committee in their recommendations advise the attestations of all Contracts and Agreements of emigrants; and it seemed to me that we should not be likely to get it extended in that direction if we protest against its application in the case of our own labour.

6. It is very evident from all we have read and heard in the past year that crimping is on the increase and that the competition for labour is also steadily on the increase. Protective legislation against crimping is being cried out for in all directions. We have been told over and over again that Government will not consider further legislation in the face of the treatment Act I has received. If Government were prepared to reconsider the matter and grant us fresh legislation we may be absolutely certain it would not give us the opportunity of rejecting it at the last moment. If such an Act as that brought forward by Mr. Brock were considered by Government, we may be sure that the so-called objectionable clauses would be there, in fact probably be considerably increased; for, the greater the protection we asked for, the greater would be the number of reciprocating restrictions imposed.

7. The position resolves itself into asking for Act I of 1903, or to ask for an absolutely new Act, or to go in for free labour. Free labour is impossible for our industries, as labour cannot be recruited under the Advance System without protection, and the Advance System is a condition of life among the labouring classes in this country.

The choice lies between asking for a new Act to be generally applied or the general application of Act I and similar Acts in Native States.

8. We have been told we shall have amendments where actually needed if we show the need of them. So far our efforts have not been successful. Nor are they likely to be successful until we collect concrete instances of where the Act causes hardship and frame amendments with due consideration of the principles of legislation.

9. Extradition is very urgently needed to prevent labour being corrupted by the practice of going over the border with advances, and this can only be obtained by the general application of Act I.

These reasons influenced me in my action.

As you will have seen, the Meeting decided not to vote on the question as several delegates had instructions to vote against the Act without any special reasons being given, and some for reasons given in Committee. It seemed to be to a great extent felt however that the day was fast approaching when some general legislation would be needed, and consequently it was decided that all Associations should record a definite opinion on the matter before the end of November.

The United Associations is empowered to take action on the result of the voting "on any clear line indicated by the votes of not less than two-thirds of the total votes admitted by the U. P. A. S. I."

It is to be sincerely hoped that anyone who intends to continue the opposition to the general application of the Act will support their views by reasons and facts and not merely on theoretical grounds or because the Act is not an ideal one.

Recruiting and Emigration.—Mr. Brock brought forward a very comprehensive registration scheme. The scheme is so large, and entails so many possibilities, that it will want very careful consideration before any conclusion can be come to regarding it.

Thefts of Tea.—After the last Meeting of this Association it was suggested to me that if a short Act on the lines of Section 4 of the Coffee Stealing Act could be applied it would be of assistance and I consequently proposed the Resolution you have read, which was carried.

Non-execution of Warrants.—The inconvenience and loss caused owing to the non-execution of warrants seems to be very generally felt and my Resolution was *carried unanimously*.

The Planters' Benevolent Fund.—This scheme, which is to all intents and purposes the same as the one working so successfully in Ceylon, deserves the universal support of all Planters, and others connected with the planting industry.

(Signed) B. MALCOLM,
Honorary Secretary.

Proposed by Mr. B. M. Behr and seconded by Mr. W. R. McKenzie: "That Mr. Malcolm's Report be accepted, but that it be placed on record that his speeches in favour of Mr. Barber's Amendment were meant as an expression of the opinions of some individual members and were not made as a representative of the Association."

An Amendment to this Resolution was proposed by Mr. H. Atzenwiler and seconded by Mr. D. McLeod: "That Mr. B. Malcolm's Report be accepted *in toto* without any restriction."

The Amendment was put to the Meeting and lost by 4 votes to 5.

The Resolution was put to the Meeting and carried by 5 votes to 4.

With reference to the Bangalore Conference it was proposed by Mr. Behr and seconded by Mr. W. R. McKenzie: "That this Association regrets Mr. Romilly's remark with reference to Mr. Abbott at the Bangalore Conference and is not in accord with his views as expressed at that Meeting."—*Carried, 2 not voting.*

A vote of thanks to the Chair terminated the Proceedings.

(Signed) A. TROLLOPE,
Chairman.

(Signed) B. MALCOLM,
Honorary Secretary.

Papers on the Table.—U. P. A. S. I. Circulars Nos. 58, 62, 56, 59, 63, 64, 61, 60, 56 and 55.

I. T. A. Circulars.

I. T. A. Book of 1908 Proceedings.

Agricultural Ledgers.

Annual Report—Department of Agriculture, Mysore State.

The Ring Disease of Potatoes—Preliminary Report by Department of Agriculture, Mysore State.

Annual Report—Indian Tea Cess Committee.

Book of Proceedings—Ceylon Planters' Association.

Presidency Manure Works—Catalogue.

FOR THE INFORMATION OF MEMBERS.

1. The Collector of Malabar has ruled that in Section 29 of Act I of 1903, the words "on the expiry" do not mean after the expiry. So that complainants wishing to ask for the return of defendants for the completion of contracts should apply for them to be handed over *within* the period of the term of imprisonment.

2. The Deputy Collector has ruled that Estate writers cannot be given warrants under Section 29, unless they hold a Power of Attorney from the employer.

(Signed) B. MALCOLM,
Honorary Secretary.

Shevaroy Planters' Association.

Proceedings of the Annual General Meeting of the S. P. A. held at the Victoria Rooms, on Monday, 13th September, 1909.

Present :—Messrs. B. SHORT, J. C. LARGE, S. CAMPBELL, Revd. DANIEL, F. SHORT, C. RAHM, B. CAYLEY, R. GOMPERTZ, C. G. LECHLER, G. TURNER, W. HIGHT, W. I. LECHLER, CHAS. DICKINS (*Honorary Secretary*); also Mr. R. A. GILBY, by his Proxy, Mr. J. C. LARGE; Mrs. GAITSKELL, by her Proxy, Mr. J. C. LARGE; Mr. C. K. SHORT, by his Proxy, Mr. B. SHORT; Mr. S. M. HIGHT, by his Proxy, Mr. W. HIGHT; Mr. V. TRAVERS-DRAPE, by his Proxy, Mr. B. CAYLEY; Mr. E. DICKINS, by his Proxy, Mr. B. CAYLEY; Mr. D. S. ROBINSON, by his Proxy, Mr. B. CAYLEY; Mr. J. C. COBBE, by his Proxy, Mr. C. RAHM; Father ROCHET, by his Proxy, Mr. C. RAHM.

1. The Notice calling the Meeting was taken as read.

2. *Honorary Secretary's Report*.—The Secretary then read his Report.

Proposed by Mr. R. Gompertz, and seconded by Mr. B. Cayley :—

“That the Honorary Secretary's Report be adopted and Accounts passed.”

3. *Delegate's Report*.—Mr. G. Turner read his Report.

Proposed by Mr. J. C. Large, seconded by Mr. R. Gompertz, and *carried unanimously* :—

“That a hearty vote of thanks be passed to Mr. Turner for representing this Association at the U. P. A. S. I. Meeting.”

4. *Sandalwood Permits*.—READ letter dated 19th July, from D. F. O., North Salem, *re* Sandalwood Permits.

Resolved :—“That the Honorary Secretary be requested to refer the matter to the Collector and District Magistrate.”

5. *Application for Membership*.—READ letter dated 27th August, from Mr. B. A. Kandasami, of Puthure Establishment, applying for admission to this Association.

Resolved :—“That Mr. Kandasami be admitted as a member.”

6. *Madras Planters' Labour Act*.—

Proposed by Mr. B. Cayley, and seconded by Mr. C. Rahm :—

“That after reading the account of what transpired at the late U. P. A. S. I. Meeting, the opinion of this Association is, that the time has come to ask Government to apply Act I of 1903 to the Shevaroyas.”

After much discussion on the subject the following Amendment was proposed by Mr. R. Gompertz, and seconded by Mr. F. D. Short :—

“That Mr. Gompertz should get his views against the introduction of Act I of 1903 printed, and Mr. Cayley for it; and a copy sent to each member of the Association, and that this Meeting should be adjourned till some time in October.”

The Amendment was put to the Meeting and lost by 12 to 2. The original proposition was put to the vote and lost by “12 to 11.”

7. *Election of Office-bearers*.—The following Committee was elected for the ensuing year :—

Messrs. S. M. Hight, F. D. Short, J. C. Large, C. Rahm, C. G. Lechler, B. Cayley, Revd. Rochet, and Chas. Dickins (*Honorary Secretary and Chairman*).

READ and recorded letter dated 15th August, from Messrs. Volkart Bros., Tellicherry, *re* their reduced charges for curing and freight.

READ and recorded letter dated 17th August, from Messrs. Parry & Co., forwarding copies of their Manure Price List for distribution amongst the members.

READ and recorded Circular from Secretary, U. P. A. S. I., No. 56/09

Do.	do.	do.	do.	58/09
Do.	do.	do.	do.	59/09
Do.	do.	do.	do.	61/09
Do.	do.	do.	do.	63/09

READ letter No. 988, dated 30th August, from Executive Engineer, stating that owing to damage done on the Ghaut Road, by recent heavy rains, it will be closed to traffic for one month.

8. *Vote of Thanks*.—Proposed by Mr. B. Cayley, seconded by Mr. C. G. Lechler, and *carried unanimously*.—

"That a hearty vote of thanks be accorded to the Honorary Secretary for his services to this Association for the past year."

CHAS. DICKINS,

Honorary Secretary and Chairman.

Anamalai Planters' Association.

Abstracts of the Proceedings of the Committee of the Anamalai Planters' Association, at a Meeting held at Puralai Bungalow, on Monday, the 20th September, 1909.

Present.—Messrs. C. R. T. CONGREVE, E. W. SIMCOCK, J. E. SCOTT, and C. H. BROCK (*Honorary Secretary*).

Mr. E. W. Simcock was voted to the Chair.

1. Read Notice calling the Meeting.

Report of the Delegate to the U. P. A. S. I. Meeting.

Mr. Brock then presented his Report of the Meeting at Bangalore, which read as follows:—

GENTLEMEN,

I attended the U. P. A. S. I. Annual General Meeting at Bangalore as your representative. The Meeting was a long one taking up five whole days from the 9th to the 13th of August. Twelve District Associations were represented by 19 delegates.

The Proceedings have appeared in the Daily Press and so you will have already read nearly as much about the Meeting as I can tell you, so I will only briefly touch on the few points on which you gave me special instructions.

Scientific Officer.—I asked that Mr. Anstead might visit the Anamalais in November, but this could not be fitted in with the requirements of other Districts which have not yet been visited by him. Mr. Anstead will probably be free to visit us in March or April next.

Proposed Coffee Cess.—Under your instructions I strongly supported the Resolution asking the Government of India to reconsider their refusal to introduce a Coffee Cess.

Act I of 1903.—A deal of discussion took place as to the advisability of Act I of 1903 being introduced into every planting district in South India, and the proposition was backed by sound and logical arguments. All District Associations are asked to give the subject careful and generous consideration, and to record their decision before the end of November next, and the Council of the U. P. A. S. I. have been empowered to take action upon any clear line indicated by the votes of not less than two-thirds of the total votes admitted by the Association. This Resolution came as an amendment to the proposed adoption of the Labour Committee's Report, so that the latter was dropped.

As directed by you, I opposed the Nilgiri Resolution to take the "Brodie" case up to the High Court. The majority of delegates agreed with your views, and the Resolution, on being put to the Meeting, was lost.

Labour Recruiting and Emigration.—I laid before the Meeting the full details of the proposed scheme for Compulsory Registration and Legalized Discharge Notes that you adopted. The apparent novelty and magnitude of the scheme prevented delegates from committing themselves to discuss it generally, but it met with prompt and adverse criticism from Mr. Aylmer Martin. Neither your original Resolution which I laid before the Meeting, or the amendment which I proposed requesting Government to enquire into the conditions of Labour Recruiting in Southern India, met with any support, and were replaced by the following Resolution:—

"That whereas it has become absolutely necessary to regulate the conditions of recruiting for labour in South India both for Plantation work in India and Emigrant Labour, the delegates at this Meeting lay Mr. Brock's remarks and his scheme before their Associations and ascertain their views thereon reporting to the Secretary of this Association on the matter by the end of November, and after this, the views of the various Associations be circulated amongst the Members of the Council."

I had wished that the question of Labour Recruiting and Emigration would have met with more openly pronounced interest, but the past year having been generally a successful one from the recruiter's point of view seemed to have lulled all fears of either Inter-District or Foreign competition for labour being as serious as really is the case. The apparent apathy as regards all methods of recruiting was doubtless greatly due to the prominence that was given to Act I of 1903 in the discussions of the Meeting, and I was unable to convince those present that the petty troubles arising from any labour law that deals with an occasional defaulter when caught is altogether an insignificant side-issue in the great Labour problem, the heart of which is being allowed to fall further into decay year by year, for want of prompt and necessary attention being accorded to it.

Cinchona.—In bringing forward your proposal to request the Government of Madras to fix a minimum price of one anna per unit on the Bark which the Government Quinine Factories purchase from planters in India, I must tell you the line of argument I took up, as I note that the *Madras Mail* did not report what I said at the Meeting on this subject. I pointed out that a maximum rate of two annas per unit had been fixed, but that there was no minimum rate. That the cost of producing Bark on the Government Plantations has been admitted by the Director to amount to one anna a unit, and that the average analysis last year of the Bark gathered on the Government Plantations was the same as the average analysis of the Bark purchased in India, and yet, owing to the low rate ruling in London, we have to deliver at Naduvatum at $\frac{7}{8}$ ths of an anna per unit, or only a little over half what it costs Government to produce on the spot. At present prices it does not pay any planter to seriously go in for Cinchona cultivation, and in the event of a war Government would find themselves cut off from being able to purchase Bark outside of India, and, if no encouragement is given to foster Cinchona growing in the country, in the event of war Government would have to rely entirely on their own grown Bark, and thus either consume their reserves very rapidly, which would take years to replace, or restrict the quantity of Quinine sold to the people in India.

The Government of Madras have already replied to say that they decline to fix the minimum rate that we have asked for, and so we know that we are not expected to go on planting Cinchona, and that Government are quite prepared to take over the risks that I have mentioned.

(Signed) C. H. BROCK.

Mr. Congreve proposed and Mr. Scott seconded a vote of thanks to Mr. Brock for his services as delegate, and proposed the adoption of the Report.—*Carried.*

3. *Indian Tea Cess Committee.*—The sixth Annual Report of the Indian Tea Cess Committee, being that for the year ended 31st March, 1909, was recorded.

4. *Indian Tea Association*.—The Proceedings of the Indian Tea Association General Committee, dated 27th July, 10th and 24th August and 7th September, were recorded.

5. *Planters' Association of Ceylon*.—The Proceedings of the Ceylon Planters' Association Committee, dated 9th July, were recorded.

6. *Planters' Association of Malaya*.—Proceedings of the Planters' Association of Malaya, dated 11th July and 10th August, were recorded.

7. *Correspondence*.—Read and recorded letters from the Director of Agriculture, Madras, dated 26th August, and the Director of the Agricultural Research Institute, Pusa, dated 3rd September, with reference to Government Agricultural Publications.

READ and recorded the Honorary Secretary's letter to the Collector, dated 14th September, enquiring why the issue of the Leases has been unduly delayed. The Honorary Secretary was instructed to write to the Collector again on the subject.

READ and recorded a notice from the District Forest Officer notifying that no Government elephant is on any account to be lent to private individuals for sporting purposes.

READ letter from the Head Assistant Collector, dated 15th September, with reference to the special permits granted for the sale of Arrack. The Committee were of the opinion, that in view of the increasing amount of illicit liquor traffic in the District, the Association should apply to the Collector to grant the Association a License for the sale of Arrack, and that the necessary Arrack store should be entirely under the control of the Association. The Honorary Secretary was instructed to communicate with all members, with a view to obtaining their opinions on the matter, and to write to the Collector to ascertain what arrangements could be made in this direction.

United Planters' Association.—Read Circular No. 58, with reference to U. P. A. publications. The Committee resolved that one copy each of the U. P. A. Proceedings and *Planters' Chronicle* for the year shall be presented to every member of the Association. The Committee recommend that members should avail themselves of the stock of back Books of Proceedings of the U. P. A. to complete their file of U. P. A. publications. The following are still available :—

Books of Proceedings, 1893, 1894, 1896, 1898, 1899, 1900, 1901,	
1902, 1903, 1904, 1905 and 1906 @ Re. 1-0 each.	
1907 and 1908 @ ...	Rs. 2-0 "
<i>Planters' Chronicle</i> , Vol. I @ ...	Re. 1-8 "
Vols. II and III @ ...	Rs. 3-0 "

READ Circular No. 61, with reference to the visit of Mr. K. Buchanan, Secretary and Manager of the Renard (India) Transport Corporation, Limited. In view of the increasing difficulties in obtaining reliable bandy traffic, the Honorary Secretary was instructed to write to Mr. Buchanan for information.

READ Circular No. 62, with reference to the proposed rules for electing the Planting Representative on the Legislative Council of Fort St. George. The Committee confirmed the Honorary Secretary's letter approving of the Draft Rules.

READ Circular No. 63. The Committee recorded with satisfaction that a suitable office had been secured for the U. P. A. S. I., and voted a donation of Rs.40 towards purchasing the necessary furniture for the same.

READ and recorded Circular No. 64, with reference to the proposed visit of Dr. Butler to the Wynaad to investigate Pepper Vine Disease.

READ and recorded Circular No. 65, giving the reply of the Chief Commissioner of Coorg to the U. P. A. S. I. Resolution on Liquor Shops in the vicinity of Estates.

READ and recorded Circular No. 66, with reference to the work of the Anti-Tea-Duty League with extracts of letters from the Secretary of the League and from Mr. C. E. Abbott,

Cinchona.—The Committee read with interest the reply of the Government of Madras, refusing to fix a minimum price per unit on the Bark purchased from Planters in India.

The Meeting expressed its regret at the short-sighted policy of the Government of Madras in not providing against a possible Quinine Famine in India.

READ Circular No. 68, giving the reply of the Director-General of Telegraphs to the Resolution of the U. P. A. with reference to the non-delivery of telegrams, and the method of closing the envelopes. The Honorary Secretary was instructed to write to the Director-General and to the Secretary of the U. P. A. to point out that the present method of closing the envelopes was of the utmost assistance to anyone who fraudulently opens or tampers with telegrams.

READ Circular No. 59, with reference to the subscriptions to the Scientific Officer Fund. The Committee voted that a special donation of Rs.100 should be given to this Fund in January next to help with the initial expenses, besides the amount already guaranteed for five years.

READ Circular No. 69, giving the replies of various Coffee Curers and Shippers declining to make any reduction in Curing and Shipping Rates. The meeting regretted that the replies showed that all Curing and Shipping Firms (with one exception) had apparently formed a ring to defeat the efforts of planters to reduce the expenses on their produce between their estates and the open market, and were thus depriving them from the benefits arising from open competition, especially as regards steamer freights. It was recognised that the situation arises to a certain extent from the power that these firms hold over producers from the hypothecation of crops, which practically prevents larger support being given to the one firm who quote Rs.14-6-0 per ton less for curing and shipping Coffee than most of the other firms.

9. *Medical*.—In view of the delay that has taken place in the proposed establishment of a hospital in the District, the Honorary Secretary was instructed to write to the Secretary, Board of Revenue, on the subject.

10. *Rules*.—The Committee re-drafted all the Rules of the Association, and the Honorary Secretary was instructed to print the Draft Rules and circulate them to all Members of the Association for approval or revision.

The Honorary Secretary was instructed to draft the Labour Rules and rates of the District, and to circulate them to the Committee for approval and revision.

(Signed) E. W. SIMCOCK,
Chairman.

(Signed) C. H. BROCK,
Honorary Secretary.

The undernoted Circular from the Central Agricultural Committee, D.No.42, dated 8th February, 1909, regarding the necessity for giving due notice when applications for seed are made to the Agricultural Department is published by request, for the information and guidance of planters:—

"It frequently happens that Crop Experiments made by members of Associations do not prove successful owing to seed having been supplied too late for sowing. As the Committee does not keep a stock of seeds, but has to obtain them from the Government Agricultural Stations, through the Director of Agriculture, Madras, there is necessarily some delay in procuring the seeds and forwarding them to the applicants concerned. To avoid these difficulties, all applicants desirous of carrying out Experiments should be advised to send in their applications through the District Associations at least three months before the time of sowing.

"Seeds will be supplied by the Agricultural Department for cost price out of the year's crop grown on the farms, but when this is exhausted the Department will, in all possible cases, undertake to buy good and fresh seeds for applicants."

INDIAN TEA ASSOCIATION, CALCUTTA.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee held on the 24th August, 1909.

*Correspondence with the Indian Tea Association (London).—*Letters of 30th July and 6th August, from the Secretary, Indian Tea Association (London) which had been circulated, were now ordered to be recorded.

The principal subjects dealt with were as follows:—

- (a) *Scientific Department.*—With his letter of 30th July, Sir James Buckingham forwarded a copy of the agreement entered into with Mr. P. H. Carpenter, the newly-appointed Assistant Scientific Officer of the Association.
- (b) *Photographs of Tea Processes.*—In the same letter the request was made that a set of photographs illustrating the processes of tea manufacture should be forwarded to the London Association.

Suggested Medical Research Department.—At the Annual Meeting of the Association on the 19th February, 1909, the suggestion was made that the Association should undertake the organisation of a Department to advise generally on medical and sanitary measures. Mr. R. L. Williamson, who made the suggestion, had been asked by the Committee to go further into the matter with a view to arriving at some workable scheme, and he had subsequently submitted his opinion: Dr. C. A. Bently, a member of the recent Doars Blackwater Fever Commission, had been asked to favour the Committee with his views in the matter, and in a letter of 6th August he mentioned that he hoped to forward his opinion shortly. The letter was to be recorded.

Representation of the Tea Industry on the Legislative Council of Eastern Bengal and Assam.—A discussion took place in regard to a letter on this subject of 10th August from the Government of Eastern Bengal and Assam. The letter was in reply to a representation submitted by the General Committee to Government on the 14th of May in which a claim had been put forward for a nominee on the Eastern Bengal and Assam Legislative Council from the Indian Tea Association; the representation had also urged that the number of seats on the Council allowed to the Industry should be increased to two. In their reply of 10th August, Government wrote that it had now been decided that two representatives of the industry should be appointed to the Council, but that the Lieutenant-Governor could not agree that one of these two members should be nominated by the Association in Calcutta. It was essential, in his opinion, that the members of the Council, as well as the voters electing them, should be residents of the Province, and that individuals and Associations outside the Province should, when interested in matters dealt with by the Council, act through their representatives in it and not direct. In this way alone, it was contended, could it be ensured that the members of the Council should represent not only their own interests, but those of the Province generally. The question of the system of voting for the election of representatives was then referred to, and the views of the Association were invited on a suggested system.

The decision of Government that the Association should not be allowed direct representation on the Provincial Council was first considered. The Committee recognised the force of the objections to complying with their request, but they felt that the circumstances of the case were so exceptional as to warrant exceptional treatment and a reasoned reply in this sense was to be addressed to Government. The point made by Government that members of Council should have local knowledge did not appear to offer any difficulty because the suggested representative of the Calcutta Association would be almost certainly a resident in the Province.

A further discussion took place as to the method of voting proposed by Government. It was agreed to forward a suggestion that every member of the electing Associations should have a direct voice in deciding as to the candidates to be voted for. To effect this, it might, the Committee thought,

be laid down that every tea estate within the membership of the particular Association should exercise one vote in the preliminary election, the candidates for whom the particular Association should vote in the final election being determined in this way. While the control thus afforded to Proprietors for the elections was but a poor substitute for direct representation, it might, it was thought, meet the needs of the case to some small extent.

Act XIII of 1859.—Letters dated 9th and 14th August from the Assam Branch and Messrs. Gillanders, Arbuthnot & Co., with regard to the interpretation of Act XIII of 1859, were considered. The Committee discussed the matter at length. They considered that it would help to make things clear if some effort were made to obtain a definite interpretation of the points which are now unsettled, so that in future there might be a likelihood of all officials adopting similar views. In this connection a reference in a letter of 28th March, 1905, from the Administration of Assam to the Association was mentioned:—"It should not be difficult for the Administration, acting in consultation with representatives of the Planting Community, to devise a standard practice in regard to the amount of advances and the period of contract which will afford Managers an assurance as to the kind of engagements which will be enforced." It was agreed, however, that before communicating with Government the Branches of the Association should be addressed and informed that it was proposed to take up the question of the interpretation of the Act.

Scientific Officers.—Dr. G. D. Hope, the Association's Scientific Officer, and Mr. P. H. Carpenter, who had arrived from England that morning to join the Department as Assistant Scientific Officer, were present at the Meeting, and an informal discussion took place on a number of points in connection with the work being carried on and the arrangements for the immediate future.

APPENDIX.

Report of Progress in Mosquito Blight Experimental Work for July and First-half of August, 1909.

At the time of reporting, that is, up to the 15th August, "Blight" has been kept entirely in check on the 5 gardens set apart for this experimental work, and in many cases the insects have been eradicated from certain patches of tea which were attacked earlier in the season. Spraying with soap solution combined with hand-collecting the insects has been carried out generally on all the gardens, but continued wet weather during the first-half of August has prevented much real work being done lately.

At Rampore Tea Estate, Cachar.—There is very little "Blight" in this garden. Certain patches which were attacked by the insects are now free from the disease, while others are still receiving treatment when weather conditions permit. Up-to-date there has been no appreciable loss in leaf through Mosquito Blight.

At West Jelingra Tea Estate, Cachar.—"Blight" is about the same and shows no sign at present of becoming dangerous. Insects are prevalent in about equal numbers on the sprayed and unsprayed sections. The experimental plots are gone round daily with sprayers. A fairly large number of insects are being caught on this garden.

At Martycherra Garden, Cachar.—"Blight" has been kept entirely in check on this garden and has been cleared out from certain patches previously affected. Spraying and collecting by hand is continuously being carried out.

At Coombergram Tea Estate, Cachar.—There has been no apparent increase in the area affected since the last report, "Blight" having been kept well in check. Plot No. 8, which was very late pruned for experiment, and which was entirely closed to leaf this time last year, is practically free of mosquito, a bush here and there only being attacked. Compared with the

neighbouring blocks of tea, No. 8 is far and away freer of blighted bushes, and most of the blighted bushes are those bordering on the jungle. The work of spraying and collecting by hand is going on regularly.

At Ghazipore Tea Estate, Sylhet.—The number of blighted bushes on this garden on the 15th August has increased by about 60 only since the 15th July. "Blight" is trying to spread, but it is being dealt with the moment it appears in fresh places. It seems impossible to eradicate it altogether, but it has been kept down to a minimum by treatment, before it can spread and do any damage. Individual bushes and some small patches of tea affected by the blight earlier in the year are now free from it. It is fresh patches that become attacked and have to be immediately treated to prevent spreading. Sections of the garden were black with mosquito at this time last year as also in previous years.

CHAS. B. ANTRAM.

KANNY KOORY, }
Silchar, 15th August, 1909. }

Extracts from Abstract of the Proceedings of a Meeting of the General Committee held on the 7th September, 1909.

Representation of the Tea Industry on the Legislative Council of Eastern Bengal and Assam.—In the Proceedings of last meeting a reference was made to this matter. In connection with it a letter of 23rd August from the Bengal Chamber of Commerce was to be recorded. It forwarded copy of a letter received by the Chamber from the Government of Eastern Bengal and Assam in reply to a representation made by the Chamber in support of the position taken by the Association that the Tea Industry should be allotted two representatives on the Provincial Legislative Council, and that of these two members one should be a nominee of the Indian Tea Association. The letter from Government to the Chamber mentioned—as was indicated in last Proceedings—that the Government of India had recommended to the Secretary of State that the industry should be allowed two representatives, but that the second of the proposals above referred to had not been accepted.

Tea Statistics.—A Memorandum of 27th August which had been circulated to the Committee was to be recorded. It mentioned several points in connection with the information regarding tea given in the "Review of the Trade of India in 1908-09" and the "Note on the Production of Tea in India in 1908" published by the Department of Commercial Intelligence. It appeared that in the Note on the Production of Tea for 1907 the total production had been given as 248,020,398 lbs., including a production for the Province of Eastern Bengal and Assam of 214,258,866 lbs., the figure given by the Director of Agriculture of the Province in his report on Tea Culture for the year. The figure of total production and the figure for Eastern Bengal and Assam given above were retained in the Note for 1908 and the Review for 1908-09 although the Director of Agriculture gave a revised figure for the production of the Province in 1907, the effect of the revision being to reduce the amount for the province in 1907 to 210,907,441 lbs. Attention was also drawn in the Memorandum to the fact that in the Review and in the Note different figures were given for the imports of tea into India, the explanation apparently being that in the one case only imports by sea were stated while in the other the imports by land were also included. References in the Review to the exports from Ceylon in 1908 which were not borne out by the statistics given were also mentioned; and a comment on the Russian trade which was open to misconstruction was pointed out.

In connection with the imports of tea into India figures were given in the Memorandum of 27th August above mentioned showing the shares of the different Provinces in the imports of foreign tea. From these it appeared that much the largest portion of the imports came *via* Bombay. The Committee were desirous of knowing for what trade these imports were intended, and it had been arranged to communicate with the Tea Brokers' Association for information in this connection.

INDIAN TEA CESS COMMITTEE.

Advertising In America—1909-10.

A Report by Mr. R. Blechynden, the representative of the Indian Tea Cess Committee in the United States, upon the work done during the first quarter of the season 1909-10 is published for general information.

Indian Tea American Advertising Fund.

SEASON 1909-10.

EXTRACTS FROM REPORT FOR FIRST QUARTER.

2. * * * this Report deals with the three months April, May and June [1909]. * * *

4. Since the end of March further sales made in Dallas, Texas, brought the number of grocers selling India Tea there up to 137. Out of all these sales only two were subsequently cancelled owing to their returning the tea as unsuited to their trade, their credit being found bad and all similar causes.

5. The system outlined in previous Reports has been consistently adhered to, the three special men going on with the work of covering territory as closely as possible. One man takes the larger towns and the other two the country districts. Thus we covered Ft. Worth, after finishing with Dallas, then Houston and San Antonio, all these being considerable cities in Texas. At the same time we were visiting smaller places in Texas, Arkansas, and when the travellers routes took them there, a few points in Missouri and Tennessee.

6. With the increasing heat in these Southern States the men were moved north and covered Springfield, Illinois and Evansville, Indiana, two fairly large towns, and then took up Iowa and are now working in the still more northern State of Michigan, while one man is in Denver, Colorado.

7. During the three months 229 places have been visited in the States named, and 1,057 Grocers have bought India black tea, aggregating about 29,691 lbs., or, say, 28 lbs. each. So far 682 mailing lists have been received from these grocers, equal to about 64 per cent. of those that bought tea; but lists may continue to arrive for an indefinite time. When the jobbers' travellers re-visit grocers, they inquire how the tea is selling and remind them that they should send mailing lists; and as these visits may be six weeks and eight weeks apart in country districts, we frequently receive lists months after the sales.

8. The mailing lists so far received aggregate approximately 38,000 names and call for that number of post-cards and samples. This works out at the rate of about 160,000 for the twelve months and thus gives the same results we were getting with the India and Ceylon Fund, allowing for us now having three men at work instead of two. I am inclined to think, however, that the number of names to be dealt with this season will be rather more than estimated from the first quarter's work and may reach 200,000.

9. To the end of June 32,568 post-cards and 24,062 samples were mailed, or 56,630 pieces of advertising in the three months.

* * * * *

10. During the quarter I have ventured on an experiment with iced tea on a fairly large scale. We have now facilities for preparing about 80 gallons of liquid tea a day, and are working up to nearly our full capacity.

11. We follow the system used by purveyors of spring or of filtered water which is a large business. Those buying liquid tea are supplied with a cooler. This consists of a receptacle for ice through which runs a coiled pipe fitted with a tap at one end and a funnel-shaped receiver at the other. A five-gallon bottle contains the tea and is inverted on the ice box, the neck of the bottle fitting into the funnel-like receiver.

12. We find that tea will not keep and has to be supplied fresh daily, and this is a good feature for those who may make this a business. We have the

coolers in about a dozen of the cheaper lunch rooms, and on hot days have sometimes to renew supplies during the day. At other times relatively little is used and the quantity returned is credited.

13. On account of the frequent severe storms that have visited this region, the summer has, as a whole, been an exceptionally cooler one and not favourable to the iced tea experiment. We have a kiosk in a suburban garden, a summer resort with theatres and the usual open-air amusement features. This has not paid its way for us, but in this we share conditions with other sellers of iced drinks. * * *

14. A special man looks after the iced tea work, and I had hoped to get it on a paying basis and so off our hands, but find it is too much to expect in the first season. Next summer, even if we do not carry our experiment further, others are likely to take it up as a business; and as India tea on account of its strength gives the best results and is the cheapest for this use, I am inclined to think it will get the preference.

15. I have sent coolers to Texas, Ft. Wayne and New York to be installed and taken care of by those we have interested. Unless our friends desire something from us, they are disinclined to reply to letters, and so far I can only give the results in New York. A very large and enterprising Department Store there held a fair, including a demonstration of India Tea, during the week ending 19th June, which was observed as a sort of festival to mark the opening of a new Bridge between New York and Brooklyn. We aided this demonstration with a grant of \$50.00 and, for serving hot tea, gave a number of the tea pots used by us in the St. Louis Exhibition. We also sent a cooler * * * The Store is well pleased with the idea of serving iced tea and will continue this on their own account for the rest of the summer. The following is a letter recently received from their Manager, dated 17th July:—

In reference to your kind inquiry regarding tea coolers, of July 5th, to Cholwell & Co., we beg to say that we have foreseen the necessity of cleansing the coil.

Two or three times since the cooler has been in our possession, we have used hot water and soda, then again, we very frequently run 5 gallons of boiling water through the coil. Nevertheless, we appreciate your suggestion and wakefulness. We have been proud of your demonstration and the decorations still remain and will remain for some time. We are continuing the use of iced India tea at our expense and will do so during the sultry weather; the expense is small and we consider that it is to our mutual advantage.

* * * * *

16. While iced tea has been a popular table beverage here during summer, there is a noticeable increase in the references to it in advertisements. I enclose some of these—one is that of a prepared milk which heads the advertisement with "Don't serve iced tea to-night."

17. We are now trying an experiment with India green tea. One of our friends in Chicago has imported and ordered a reasonable quantity of India green tea. One of our specialty men has been over the entire territory of a traveller selected by this firm and has done remarkably well with India black tea alone. He will now cover the same territory again with the same man with a view to seeing what can be done with green tea and also what fresh trade untouched by the black tea offer can be induced to buy India green tea. The aim is to place about one h/c for immediate delivery and take orders for future deliveries monthly or bi-monthly, or as may be arranged, for six months to come. Our friends think they can thus place 1,000 h/cs.; and as they have the tea, the experiment is worth a thorough trial, as it will not be merely placing a small quantity of India tea and following the demand with teas of some other country.

18. This experiment with green tea has just started, and I hope to be able to state the result in my next Quarterly Report.

19. In concluding my Report for the year 1908-09, I stated that the results obtained with India black teas alone had far surpassed my expectations,

I can now add that I continue to receive advices that no complaints are being made by the grocers who bought tea, that many of them have given repeat orders and others will buy again as they find they can sell the tea. The fact that very little of the tea has been returned by grocers is in itself an excellent and very encouraging sign; and when advertisers find that repeat orders are given, there is no other measure to gauge the success of their system. After that all to be looked for is the greater frequency of repeat orders.

20. We are at a disadvantage in respect of measuring results compared with those who are themselves sellers of the article they advertise. We are also advertising a product of which no one firm or combination can obtain monopoly, and, as a consequence, cannot expect to trace through our friends all the repeat orders given by grocers, nor do we know what is being done by other firms who have access to the outlets we create.

21. Occasionally we find jobbers with whom we have no connection actually advertising India and Ceylon Tea in places where we have been active, where they have never previously attempted anything of the kind; and I enclose such an advertisement from a Denison, Texas, newspaper. The regular packet houses also feel the result of our work and thus share in the general benefit of an increased demand. In this connection, I once more point out that Ceylon Tea benefits as much from our work as India Tea, as they are considered to be identically the same thing not only by consumers, but by the trade.

22. The official figures showing the importations of tea for the season ending 30th June will not be available before the middle of August, but those for the eleven months ending 31st May have been published, from which the following has been prepared:—

Imports of tea into the United States for eleven months ending 31st May:—

	United Kingdom.	East Indies.	Canada.	China.	Japan.	All Others.
1909	14,319,757	9,395,246	4,203,526	31,648,399	42,444,129	1,153,866
1908	8,874,689	6,808,186	2,235,440	27,228,530	45,386,989	594,689
	5,445,068	2,587,060	1,968,086	4,419,869	2,942,860	559,177
Increase %	61'35	38'00	88'00	16'23	8'88	94'03
				Loss.		
1909	27,918,529			75,246,398		
1908	17,918,315			73,210,208		
	10,000,214			2,036,186		
Increase %	55'81			2'78		

23. While it is possible that some of the tea shown as imported from the United Kingdom and from Canada may be other than India and Ceylon tea, the removal of that tea from the London market must have had an effect favourable to the growers of India and Ceylon teas. The imports from Canada will influence conditions there, and it is therefore probable that the figures given in the first three columns of the first table and shown together in the second table, reflects fairly closely the increase in the imports of India and Ceylon tea into North America.

24. The prospect of a duty on tea was the cause of the great increase in the imports of India and Ceylon tea; the new season's crop from China and Japan not being ready and the only available market being London. Yet were it not that outlets had been created in this country, for these teas, their importation on such a scale would not have been attempted. Under parallel conditions, when the tea duty was imposed on the 1st June, 1898; the entire season's imports of India and Ceylon teas into the United States amounted to under 7,000,000 which gives a measure of how the market has broadened for these teas.

TEA.

Production of Tea in India, 1908.

A Note on the Production of Tea in India in the year 1908 has been issued from the office of the Director-General of Commercial Intelligence India. The following are extracts:—

[NOTE.—The figures of area and production in these tables are for calendar years, and the figures for exports from India refer to the official year's beginning on the 1st of April and ending on the 31st of March. The figures relating to exports from China and Ceylon are for calendar years. Statistics for Burma are included].

AREA.

The figures given in that statement are for the most part those reported by planters. In Eastern Bengal and Assam estimates are prepared by the local officers for those gardens for which returns are not supplied by the owners and managers (36 out of 931 in 1908). In Southern India also, similar estimates are prepared for certain non-reporting plantations. Including the estimated area, the total area under Tea in 1907 and 1908 was divided between the different Provinces as follows:—

Area in Acres.					1907.	1908.
Eastern Bengal and Assam—						
Brahmaputra Valley	...	...	...	...	208,575	210,704
Surma Valley	...	...	...	...	133,757	134,938
Jalpaiguri (including Alipur Duar)	...	...	...	...	81,338	83,365
Chittagong	...	...	...	...	4,379	4,283
Total Eastern Bengal and Assam					428,049	433,290
Bengal—						
Darjeeling	...	...	...	...	51,507	51,614
Chota Nagpur	...	...	...	...	2,292	2,291
Total Bengal					53,799	53,905
United Provinces					7,961	8,086
Punjab	...	...	...	...	9,411	9,393
Total Northern India					17,372	17,479
Madras	Reported	...	...	...	10,974	11,436
	Estimated	...	...	...	2,684	3,190
Travancore	...	...	...	...	25,986	27,103
Total Southern India					39,644	41,729
Burma	...	...	...	...	1,669	1,724
Grand Total					540,533	548,127

Out of the total area of 544,937 acres for which either returns or complete estimates are received, 515,153 acres were reported to have been plucked during the year. On the remaining 29,784 acres the plants were too young to be plucked or were not plucked for other reasons.

The total number of plantations was 5,839 in 1908 as against 5,811 in 1907—a net increase of 28 plantations. The increase is due for the most part to changes in the system of management, gardens formerly under combined management being separated and *vice versa*.

In Eastern Bengal and Assam 931 plantations are reported to have a total area of 433,290 acres under tea, an average of 466 acres. In Bengal 298 acres is the average of 181 plantations and in Travancore 411 acres of 66 plantations. In Madras and the United Provinces the average is much smaller,

being about 130 acres in the former and 108 acres in the latter. In the Panjab where tea cultivation is conducted on a small scale, the average area is only 3 acres. In Burma the gardens are even smaller, approximately one acre each on the average. These figures relate only to tea-bearing areas and do not include the area in the occupation of planters, but not under tea cultivation.

The production of tea in each year since 1885 is given in an Appendix.

It is noticeable that while the area under cultivation has increased since 1885 by 93 per cent., the increase in production has been 245 per cent. * * *

The total production in 1908 is reported as 247,018,653 lbs. divided between the different parts of India as follows:—

	1907.	1908.
Assam	167,545,751	166,569,433
Eastern Bengal	46,713,114	44,978,057
Bengal	13,503,444	14,993,590
Northern India	3,532,139	3,447,365
Southern India	16,219,906	17,030,208

The decrease in production reported for Assam and Eastern Bengal is not confirmed by the export returns. Every effort has been made to obtain correct returns from Planters, but the figures reported must be regarded as doubtful.

Burma is excluded from these calculations, as the produce of the Burma tea gardens is used almost entirely for the manufacture of wet pickled tea (*letpet*) which is eaten as a condiment. In 1908 453,644 lbs. of *letpet* was manufactured and only 5,027 lbs. leaf tea (black).

The production per acre plucked of manufactured tea (green and black) reported for 1908 was as follows:—

	lbs.		lbs.
Cachar	533	Darjeeling	292
Sylhet	551	Hazaribagh	50
Goalpara	291	Ranchi	119
Kamrup	221	Almora	139
Darrang	489	Garwal	71
Nowgong	471	Dehra Dun	329
Sibsagar	429	Kangra	154
Lakhimpur	564	Nilgiris	344
Jalpalguri	558	Malabar	438
Chittagong	373	Coimbatore	347
Chittagong Hill Tracts	223	Travancore	522

PRODUCTION OF GREEN TEA.

	Reported Production.	1907. lbs.	1908. lbs.
Surma Valley	1,276,589	962,166
Other parts of Assam and Bengal	733,018	995,819
Total Assam and Bengal...		2,009,607	1,957,985
Northern India	1,120,653	1,074,760
Southern India	399,000	101,720
Total reported production...		3,529,260	3,184,465

	Exports.	1907-08. lbs.	1908-09. lbs.
From Calcutta and Chittagong...	...	883,287	754,166
By land and from Sind by sea	857,709	677,824
From Madras by sea	79,761	...
Total Exports...		1,770,757	1,432,010

Bounties have been paid on the following quantities :—

				1907-08. lbs.	1908-09. lbs.
Surma Valley	...	...	...	1,246,964	938,272
Other parts of Assam and Bengal	...	...	...	90,154	202,129
Total Assam and Bengal...				1,337,118	11,401
Northern India	...	...	...	57,473	2,796
Southern India	...	...	...	...	...
Total...				1,394,591	1,143,197

Almost all the bounty goes to green tea produced in the Surma Valley (Cachar and Sylhet) which is shipped from Calcutta and Chittagong. But a little green tea from these districts and from other districts in Assam and Bengal is sent across the North-Western frontier. The greater part of the land trade in green tea, however, is supplied by the gardens of Northern India, particularly those of the Kangra Valley.

The figures of reported production particularly for past years are not accurate. It was discovered in 1907 after a special enquiry that in past years black tea was in certain cases erroneously returned by planters as green tea.

The chief foreign markets for green tea are the United Kingdom and Russia for exports by sea, and Afghanistan for exports by land.

EXPORTS.

Table No. 3 shows the quantity (in pounds) of Indian Tea exported direct to each country during the last five years. The destinations given are those declared on export, and owing to the use of optional bills of lading it must be assumed that the true quantities differed in some cases from those stated. The result is that the figures of export from India do not agree with the figures of import into various countries, *e.g.*, the United Kingdom. But the discrepancies tend to balance one another in a series of years.

The most striking features of this year's trade are as follows :—Exports by sea increased by 6,795,572 lbs. as compared with 1907-08. Direct shipments to the United Kingdom increased by nearly 7½ million pounds. The proportion taken by the United Kingdom has also slightly increased * * * Direct exports to Russia have increased by over 3 million lbs. or some 20 per cent. and those to Germany and Austria-Hungary by some 841,000 lbs. (128 per cent.) and 122,000 lbs. (185 per cent.), respectively. The exports to Denmark and Sweden also increased considerably, but most other countries in Europe took less, the largest decreases being in the case of Belgium and Roumania. Some 600,000 lbs. more were exported to Egypt. Canada's imports increased by over 2 million lbs., and the United States took some 52,000 lbs. more. China decreased her imports by about 732,000 lbs. and Ceylon by 4,600,000 lbs. The shipments to Australia and New Zealand decreased by nearly 2 million lbs. * * *

Throughout the last five years the percentage of the Indian tea crop sent to the United Kingdom has steadily diminished (though there has been a slight recovery in 1908-09), while direct exports to other countries in Europe have increased. The figures are as follows :—

Proportion per cent. to total exports by sea and by land of exports consigned to the countries named.

	To the United Kingdom	To Europe excluding United Kingdom.	To Africa.	To America.	To Asia.	To Aus- tralia.	By land.
1904-05	78.3	5.1	0.3	6.9	5.2	3.1	1.1
1905-06	76.9	5.2	0.3	8.0	4.9	3.6	1.1
1906-07	74.7	6.8	0.6	6.9	6.1	4.0	1.0
1907-08	74.3	7.4	0.4	3.0	9.7	4.8	0.4
1908-09	75.4	8.8	0.7	3.9	6.9	3.8	0.5

Exports of other Foreign Countries.

The latest official figures for exports of Tea of other foreign countries are as follows :—

	JAPAN.	JAVA.	NATAL.
	lbs.	lbs.	lbs.
1904	46,297,236	24,822,850	348
1905	37,708,343	25,795,973	.....
1906	39,778,193	27,517,615	2,057
1907	40,564,871	29,286,420	584,299
1908	.....	36,579,536	276,558

FOREIGN TEA IN INDIA.

The imports of foreign tea into India in 1908-09 were nearly 7·6 million lbs. just over a million lbs. more than in 1907-08. About a sixth was re-exported as foreign tea chiefly from Bombay to Persia, Turkey in Asia, and Bahrein Island by sea, and by land to Afghanistan, leaving nearly 6½ million lbs. for consumption in India. Part of this, no doubt, was used for blending with Indian teas, and the blend when exported was perhaps treated as Indian produce in the Customs declarations.

CONSUMPTION OF TEA IN INDIA.

	Production.	Next exports to foreign countries.	Balance.
	lbs.	lbs.	lbs.
1904-05	221,565,631	209,640,079	11,925,552
1905-06	221,712,407	211,816,620	9,895,787
1906-07	241,403,510	232,425,598	8,977,912
1907-08	248,020,397	223,201,905	24,818,492
1908-09	247,477,324	228,763,984	18,713,340

As already explained, the reported figures of production are far from accurate and consequently any estimate of the consumption *per capita* in India as a whole is vitiated at the outset. There are, however, reasons for thinking that internal consumption, especially in Southern India, is increasing.

In Burma, in addition to leaf tea, some 17 million pounds of pickled tea (*letpet*), mostly imported from the North Shan States, are consumed annually. The consumption per head of population is estimated to be about 2 pounds.

PERSONS EMPLOYED IN THE INDIAN TEA INDUSTRY.

The number of persons employed in the Industry in 1908 is returned at 509,488 permanently employed and 74,719 temporarily employed, making a total of 584,207 persons or about one person to the acre. Compared with the return of the previous year there is an increase of 27,786 permanent employees and a decrease of 3,933 in the number of temporary hands. In South India the work is sometimes done by contract, and in this case no record of the labour employed is available, and the figures are therefore not complete.

Duty on Tea.

The following table shows the Customs duties levied on Tea in the principal countries of the world as they stood on the 1st April, 1909:—

		1. Imported by the European Frontiers—	per lb.
			RS. A. P.
Russia ...	{	Brick Tea, Black or Green	0 8 0
		All other kinds	1 6 3
	{	2. Imported on the European Frontier or the Black Sea— Tea of Ceylon or Indian origin	1 6 3
		3. Imported across the Frontier of the Semiryechensk Province of the Steppes, Irkutsk of the Amur— Black Bohea, flower Green and Yellow	1 2 0
	{	4. Imported through the Customs House of Irkutsk or westward across the Frontier of Siberia or of the Steppes or the Semiryechensk— Tea in bricks	0 2 7
		Tea in tablets of the Russian manufacture	0 10 7
		For consumption as tea	0 1 4
		For the manufacture of Theine	Free.
	{	France ... { Imported directly from a country out of Europe	0 9 0
		{ Imported from European <i>entrepôts</i>	0 11 8
Spain ...	{	* * * * *	0 6 6
		Tea imported from European countries or shipped in a European Port will pay an additional duty of	0 0 2
Austria- Hungary..	{	Imported by sea	0 9 9
		Imported by land	0 11 0
Japan ...	{	Black Tea	0 3 9
		Black Tea dust	0 0 6
		Other Tea <i>ad valorem</i> 45 per cent.	
Persia ...	{	White Tea	0 7 0
		All other tea	0 4 3
British Colonies and terri- tories in South Africa.	{	Tea, the produce of South Africa or tea grown within the South African Colonies Union	Free.
		Other Tea	0 4 0
Canada ...	{	Tea imported direct from the country of growth and production, also tea purchased in bond in the United Kingdom	per lb. Free.
		All other tea <i>ad valorem</i> 10 per cent.	
Australia..	{	In packets not exceeding 20 lbs. in weight	0 1 0
		All other tea	Free.
		Tea in packages of 5 lbs. or over, net weight of tea: If the produce of some part of the British dominions	Free.
New Zealand...	{	Otherwise	0 2 0
		Tea in packages of less than 5 lbs.— If the produce of some part of the British Dominions	0 2 0
		Otherwise	0 2 5
		Tea being the produce of and being imported from the Colony of the Cape of Good Hope, the Colony of Natal, the Orange River Colony, the Transvaal and Southern Rhodesia	0 1 0
United Kingdom		... ..	0 3 0
Sweden		... ..	0 3 0
Norway		... ..	0 12 0
Denmark		... ..	0 4 3
Holland		... ..	0 2 3
Belgium		... ..	Free.
Portugal		... ..	1 8 6
Italy		... ..	0 10 11
Greece		... ..	0 1 9
		Turkey	<i>ad valorem</i> 11 per cent.
		Egypt	8
		British East Africa "	10
		United States	Free.
		Argentine Republic	0 4 4
		Chile	0 6 6
		Ceylon	0 4 0
		China	<i>ad valorem</i> 5 per cent.
		Straits Settlements	Free.

The Indian Tea Industry.

MOSQUITO BLIGHT.

All planters and people connected with tea know what mosquito blight means, but only a small proportion realise the extent to which it affects their pockets. If a concise account could be furnished of the loss this blight causes, I have no doubt we should find that it eats up at least 50 per cent. of the profits in prosperous years, and in bad years is the cause of all the losses that occur, especially in the Terai Gardens with China and hybrid plants. A garden with a 4,000 maund crop loses 1,000 maunds before half the crop is made. This, worked at as low an average as 4 annas per lb., comes to Rs.20,000. This is putting the matter very mildly; in very many cases the loss has been greater, and still those responsible are going on in the same old apathetic way. Year after year little or no effort is made to check the most serious of tea blights. It is true we have Scientific Officers, who were supposed to examine this question and give us a remedy, but so far they have only told us the scientific name of the insect and given information about spraying which was known all along. These scientific gentlemen after looking at the mosquito and seeing what a tough customer he was to deal with, quietly dropped him, and went off into blights that were much easier to tackle, leaving the mosquito conqueror, to the ruin of all China and hybrid gardens. Now we will turn to those responsible for the gardens and see what efforts they have made. One sees occasionally all the children put on to catch the mosquito, and after say half a million or even a million have been caught these figures are reported to Calcutta. I believe one Manager sent a chest of the dead to his Agents in Calcutta, with the result that they were in danger of being proceeded against for creating a nuisance. This is one of the means employed to check this pest. In another case a garden in the Terai actually laid itself out on the newest scientific lines and bought about a dozen Knapsack sprayers holding some six gallons each, and put on men and boys to spray the blight. This was a real *great advance* for which I believe special sanction had to be obtained from the Agents. About twenty men and boys were put on to spray with soap, etc. The mosquito lay low, and at last hopped over to the next section. By the time they finished the first section and started on another the rain came and swept away the soap; then there was a general llop over to the old lot, and the Manager said spraying was "no good." Certainly spraying with twelve sprayers was "no good." You might just as well try to shoot an elephant with a pop-gun. The mosquito, no doubt, is small, but unlike the coral that builds islands, he destroys islands of tea.

Now let me consider what means are to be taken to destroy this small but numerous enemy. It has been general knowledge among planters that pure indigenous Assam plants are practically immune from the attacks of the mosquito. This can be seen any day in gardens with China, hybrids, and indigenous plants side by side. While China and hybrids are black, the indigenous plant goes on giving leaf and is not affected. The uprooting of the China and hybrid and re-planting with indigenous plants could have been done years ago in most of the gardens, but Managers were not going to take the risk of losing the crop they obtained before the mosquito started nor were they going to plant tea for someone else to reap the benefit. And so the game has gone on, and the proprietors, instead of demanding the eradication of these old blight breeding bushes and the replanting of new ones, have quietly looked on (either through ignorance or apathy) and allowed Managers to follow the old policy. Had replanting been carried out several years ago, it, no doubt, would have saved many gardens from liquidation and have increased the dividends now being earned by the leading old gardens.

Leaving gardens as they are, what else can we do to prevent this blight? We can go back to spraying, but it must be done on a scale in proportion to the loss. It is positive waste to spend Rs.200 or 300 on sprayers and spraying and expect to eradicate the blight. A much bigger effort than this is required—a well-thought-out plan that brings the newest mechanical, chemical and scientific knowledge to bear on the subject. Such a plan to be effective would, no doubt, cost money, but it must be done if replanting with

indigenous plants is not tried and the Agents of these estates mean to work them to a profit in all years. Let us consider our mechanical resources which form our main standby. It would take away too much of the labour to put on Knapsack sprayers, and even if each cooly had one, it would not be enough to check the blight appreciably. Let us take, for example, the Darjeeling Terai as typical, showing varied lays of gardens, and being one of the most, if not the most, affected districts of the lot. The gardens lying close up to the foot hills would lay down pipes for water from a higher elevation, so that a good pressure could be got for spraying at one time. Other gardens without this convenience would employ heavy pumps and lay on the water in pipes in the same way. Others again, with water within, say, 20 to 30 feet would dig a series of wells and use a small fire-engine to spray with. This mechanical assistance with the present knowledge of insect-destroying chemical mixtures would help to destroy this blight as well as any other insect blight where spraying is effective. There is no doubt that the original expense of laying the pipes or digging wells with a pumping engine would be large, but after the first year there would only be the actual cost of spraying. Now, let us consider what scientific knowledge can do to assist in the destruction of this pest. We might find out on what, besides tea, the insect feeds. There is no doubt the insect existed before tea was introduced. Of course, on the introduction of tea, having ample food, it increased in amazing numbers. It is a case of an "army fighting on its stomach." By spraying the tea we have choked off the insect from feeding on tea, but this alone would not prevent a recurrence of the blight. As soon as the tea was sprayed the insects would all go into the adjoining jungle. I have no doubt millions would die of starvation, but as hunger with insects seems to increase their procreative proclivities, those that survived would be highly capable of breeding and would return to the tea as soon as the effects of spraying had worn off, and the game would have to be played over again. We want our scientific advisers to point out all the plants in the forest this insect does, and is likely to, feed on. We can then eradicate these plants in the adjoining forests to a sufficient distance to prevent the blight coming back to the tea. Is it possible to make this pest change his diet back to some jungle plant? It transferred its attention from a jungle plant to tea, why not from tea back to some other plant? Of course in the dry weather, after spraying, the forest round the garden could be fired to exterminate the mosquitoes that had taken shelter there. While writing this I have received a leaflet on the *Mantidae* from the Scientific Department, and the suggestions it contains no doubt would help to keep down the mosquito to a small extent, but one family of insectivorous insects would hardly meet this case. These *Mantidae* are not common and some easy means of propagating them should be devised, if they are to have any appreciable effect. With an ample supply of mosquito food this family of insectivorous insects should have increased largely on the tea gardens, but this does not appear to be so.

This blight is such a serious one that to meet the case, there should be some legislation enforcing estates to eradicate the blight-bearing plant and take stringent measures to keep the pest down.—"Anti-Skeeter," in the *Statesman*.

Java Tea in Australia.

The *Times of Ceylon* reproduces a catalogue of the catalogue, issued in Melbourne, what is termed "the first sale" of Java Tea in Australia, on September 3rd, 1909. From this it appears that under instructions from Mr. H. Lambe, Tea Expert Bureau, officially representing the entire Java Tea Planting Industry, 990 packages Java teas were offered on Estate account:—

"An assortment from 34 Estates of low and high grown teas, from 1,000 to 5,000 ft., and comprising all grades from good ordinary to finest sorts."

A "Special Note" appended reads as follows:—

"The object that the Planters of Java have in making this shipment is to bring before the Tea trade of Melbourne an average selection of the manufacture of their Island, and show their teas in their various makes, appearances, and qualities.

"This is a unique opportunity for buyers to judge of Java teas, as it is most unlikely that such a shipment will be ever repeated, and all teas catalogued can be taken as an average standard of manufacture, and can be kept with safety for future operations.

"Mr. Lambe will be pleased to give any information, and to give quotations for the importation of further breaks from any of the estates.

"Mr. Lambe would also be pleased to receive from the trade any suggestions as to the particular class of tea most suitable for this market's requirements.

"All lots in this shipment are small; but it must be understood that the teas brought down have been selected as trial breaks only, in order to give a general idea of Java teas, and are taken from estates of all sizes from 500 to 2,000 acres, which produce from 300,000 lbs. to 2,500,000 lbs. each per annum.

"Java estates are, almost without exception, of a much larger area than those of Ceylon, and in the case of repeat orders it can generally be expected that any estate can supply, say, 100 chests per month of their broken grades, while large estates such as Malabar and Canara can produce as much as 1,000 chests per month of broken Pekoe.

"The export from Java last year to all countries was 36,000,000 lbs., whilst up to the present time this year the figures are about the same; but the output is an increasing one, and in a few years' time will be fully 50,000,000 lbs."

Mr. Nelson, of the well-known firm of Tea importers, Messrs. Nelson, Moate & Co., being seen on this question, said that Java tea was undoubtedly making headway in Australia. In New Zealand it could not gain a footing on account of the Preferential duty of two-pence. He had heard of its popularity in Australia, and felt convinced that, unless Ceylon manufactured its tea better than it has been doing lately, Java would gain a lot of ground.

"Ceylon growers," Mr. Nelson remarked, "are rushing their tea into the market instead of taking trouble to manufacture it properly, and the consequence is that it will not keep. Owing to not being properly fired, almost immediately it is exposed to the air it becomes soft. This is very unfair to the importers who invest money in Ceylon tea and then find it gets bad on their hands. That is at present a strong grievance against Ceylon tea. We spend thousands of pounds on Ceylon tea, and very often it gets bad before it can be sold."

Java people take more trouble with their tea, and it keeps better.

"A great improvement has taken place in the methods of manufacture in Java. The appearance of Java tea is now very much like the Ceylon tea that we used to get. Of course, they cannot approach Ceylon in quality, but they have appearance and a fair liquor. They are rapidly improving in liquor and leaf, and the grocers in Australia who go so much by the tips find that they can buy Java tea cheaply. Java tea keeps much better than Ceylon does now."

Mr. Nelson is of opinion that Java tea will make very rapid headway in Australia.

Mr. Copland Mackie takes a different view. He writes:—

*** "The auction of Java teas held on 3rd September was preceded by the sale in Sydney, on 27th August, of 1,052 packages under the same instruction. "It is quite a mistake to suppose that these arrivals heralded the introduction of Java teas into Australia. As a matter of fact they have sold freely at intervals (when Ceylon and Indian teas have stood at a high range of prices) for the last ten years. Whilst admitting that considerable improvement has of late years taken place in the quality of Javas (they have always been well-made teas) they are by no means popular in Australia, and as a rule are only bought when Indian or Ceylon tea cannot be procured at low rates."

RUBBER.**Rubber Output Estimates up to 1913.**

A MALAYA VIEW.

In the present Rubber boom time, when practically every day a new flotation is announced, the thoughts of the cautious naturally turn to the possibility of over-production. It may be interesting, therefore, and instructive to collect the data at our disposal and to estimate what the output of plantation rubber may reasonably be expected to be during the next few years—say up to 1913, the year in which all the trees planted up to the end of 1908 will be tappable. For the purposes of this enquiry, from which, of course, only approximate conclusions can be drawn, it will be necessary to assume that conditions in the rubber-producing countries, such as the number of trees to the acre, the growth of the trees, freedom from pest, and the amount and quality of rubber obtainable at a given age, are identical. The countries to be taken seriously into consideration, are, in addition to the Federated Malay States and Straits Settlements, Ceylon, Java, Sumatra and Borneo. From the Annual Report we find the planted acreage in the Federated Malay States at the end of last year was 168,000, and in the Straits Settlements, 73,000. The two Ceylon papers—the *Times* and the *Observer*—are substantially in agreement as to the acreage under Rubber in Ceylon, which they estimate roughly at 180,000 acres. Java and Sumatra possess about 40,000 acres planted, and Borneo about 10,000. So that we have

	ACRES
Federated Malay States and Straits Settlements ...	240,000
Ceylon	180,000
Java and Sumatra	40,000
Borneo	10,000
Total	470,000

Now it is held by those whose opinion carries weight that an acreage tapped in one year will yield about one-fifth more in the next. To estimate, therefore, a year's crop, it is necessary to take the previous year's crop, plus 20 per cent, and add the estimated crop from the new acreage which comes into bearing. A glance at the statistics given in the Director of Agriculture's Report of the acreage planted and the number of trees shows that the average is, roughly, 150 trees to the acre. During last year the average yield per tapped tree all over this Peninsula was 1 lb. 15½ ozs. To be on the safe side, we may estimate the yield at 1½ lb. per tree, which gives a yield per acre of 225 lbs., and, allowing for wastage, we arrive at a minimum yield per acre of 200 lbs. Now the Federated Malay States in 1908 exported 3,155,600 lbs., or 1,413 tons. Eight thousand acres, planted in 1904, come into bearing this year, so that, adding 20 per cent. to last year's total, and estimating the output of the new average at $8,000 \times 200$, we arrive at an estimate of 5,398,720 lbs., or 2,400 tons, for this year. The export has already reached 3,000,000 lbs., so it is fairly certain that the estimate is a conservative one. In 1910 24,000 more acres come into bearing, and by the same method the total output will exceed 11,000,000 lbs., or, say 5,000 tons. In 1911 the acreage is increased by 42,000, and our estimate places the output at nearly 22,000,000 lbs., or 9,600 tons. Forty thousand acres more come in in 1912, and the estimated output is 34,000,000 lbs., or 15,000 tons. Finally

IN 1913

the whole of the area planted at the end of 1908 will be in bearing and the estimate is just on 50,000,000 lbs. of rubber, or

22,000 TONS.

By taking the number of trees planted at the end of 1908—28,000,000—and estimating 2-lb. yield from each tree, less wastage, we arrive at much the same total. Now if you assume for the sake of argument that the other producing countries are doing exactly what we are doing, a computation of the total output from all the countries named, possessing a total acreage of 470,000, is merely a question of arithmetic, and works out at about

61,500 TONS OF PLANTATION RUBBER.

The world's annual consumption stands now at about 70,000 tons. Now our estimates of probable outputs have been very conservative, and we have taken no account of additional acreage which might be tappable in 1913, but it is clearly very improbable that the total output of plantation rubber in 1913 will do more than equal the present world's consumption of rubber. That consumption, in the natural course of events, may be expected to increase by 1913, and then, of course, there is the question of the price. No one in his senses supposes that the present price of rubber will be maintained for ever. We have seen various estimates of the probable average prices of rubber during the next few years, in technical journals, in prospectuses and elsewhere. We think we are perfectly safe in estimating that the average price for plantation in 1913 will not be less than 3s. or 2s. per pound profit on a well-managed estate. At 3s. per lb. any number of new uses for rubber would be found practicable, and experts are agreed that a heavy drop in price would be followed by a largely increased consumption. We have, of course, only dealt with the question generally, and all estimates must necessarily be somewhat vague, but we think we have produced enough facts to show that the question of over-production is not one which need be considered for some years to come.—*Malay Mail, August 25th.*

RUBBER PROSPECTS IN BRAZIL.

One of the leading South American houses interested in Rubber sent us the following letter under date February 2nd:—"We should be much obliged if you would kindly let us know if there is any literature existing relating to the prospects of the natural rubber produced in South America, in view of the increased cultivation in the East. A client of ours in South America, who is much interested in the development of the Rubber industry, has asked us for information on this point, and as it opens up a somewhat complicated problem, we think it probable that the question has been dealt with." In answer to this we sent some articles on the subject, including a copy of *Tropical Life* for March last, with our leading article on "The Fall in the Price of Hard Para," together with the following letter:—"In answer to yours of February 2nd, the only trustworthy matter printed *re* the prospects of Rubber will be found in current tropical literature. In face of the present prices being paid for Rubber, one can only feel that, for the present at any rate, the demand exceeds the supply, although at the moment trade is not good at least it is said not to be, and motor-cars, champagne, &c., are stated to be in less demand.

"I therefore feel that we can take to-day's trade as a good average and this at present brings in too high a price for Rubber to put tyres and floorings on a popular basis. I agree with those who maintain that when Para rubber comes permanently to 2s. 6d. per lb., so many uses will be made of it that all areas under cultivation even then will be well employed to supply the demand.

"Of the Eastern centres, I would fear Ceylon the least; it deserves all it can get, but its soil tends to be worked out. Malaya, with its virgin soil and large uncultivated tracts, is more dangerous, but lacks labour. Brazil's most dangerous rival in the future will be Java, with its teeming industrious population, who are just the class to work Rubber, as it is not an exacting crop, and enables the Javanese to go home and plant and gather in their rice. If, in face of all this, Brazil ever allows herself to be cut out by the East it will be entirely her own fault, for she has the cards in her hand. We understand that besides cultivating the areas already worked, Brazil has still vast areas untouched.

"Let the States, therefore, really federate and co-operate together, and not put on vexatious inter-State restrictions and taxes. Put motor-boats on the rivers, and encourage men capable of developing her cultivated rubber and other resources without destroying them to go up into the interior to bring down the rubber, paying a royalty on the same to one centre only, not a tax to each State that they have to pass through. If Brazil does this she would attract outside labour and capital to develop her dormant riches."
—*Tropical Life.*

CORRESPONDENCE.

LABOUR TROUBLES.

To

THE EDITOR OF *The Planters' Chronicle*.

DEAR SIR,

The leaders recently appearing in the *Madras Times* on the Planting Industry, concern for the most part planters. This is my excuse for troubling you with a few remarks, rather than writing to the Daily Press. The aim of the articles is to bring about complete unanimity of thought among planters in Southern India in so far as their future prosperity depends on protective legislation. In practice, this means to persuade those Associations who do not wish for legislation, to sacrifice themselves for the benefit of those who do want it. Where conditions are absolutely different, I do not see how unanimity is to be expected on such a point, and in my own individual case to sacrifice my employers' interests is not good business either for them or for me.

The *Madras Times* proposes to show how absolutely necessary it is to seek for legislation to control labour arrangements, and advocates the general imposition by Government of Act I of 1903 on all planters. The arguments in favour of any special legislation being applied to planting districts, and in favour of Act I in particular, still fail to impress me. It is stated that free labour entirely controlled by the laws of supply and demand is a counsel of perfection, and impossible to put into practice. Even admitting that this is so, why should we abandon this lofty ideal? I have put it into practice since 1883, have suffered because of it, and enjoyed its benefits, and I ask for no change. Out of some 200 Kanganies (with a horde of Sub-Kanganies, supplying over 15,000 coolies), with whom I have personal dealings, I do not like to say how few can be considered honest in the European meaning of the word. Still, I want no change in the way of legislation. In my opinion a special punitive law of the nature of Act I will frighten away some of my best men who can afford to retire and would do so, rather than be subjected to its provisions.

It is said we have shown neither consistency nor common sense in our attitude towards the Government of Madras with respect to Labour Legislation. It is true we once asked for legislation, to help us more especially with reference to two points, (1) specific performance; (2) recovery of advances. Is there any Planter left who considers that Act I of 1903 gives us specific performance? or who imagines that Government can give it? Does Act I help us to recover our advances? it certainly permits the summary sale of the moveable property towards recovery of an advance, but as the moveable property of a cooly consists of two earthenware chatties, of what value is this clause?

Is it wanting in consistency to refuse to accept an Act which does not help us on these two important points? Is it common-sense to accept a stone when we asked for bread?

Then, about crimping—the exact amount of protection given by the Act is shown by the Coonoor judgment.

The Planting Member of Council who was a member of the Special Committee of the Government of Madras which drafted Act I of 1903 no doubt did his best. (By the way, was he an advocate of consistency?) When it came to an important point where he found himself opposed to another member of the Special Committee. I think I quote him correctly when I say, he found Mr. Gabriel Stokes obdurate. The obvious reply that two could play at being obdurate was not forthcoming, and the reason (which I wish to emphasize) must have been that some planters wanted the Act, and rather than wreck the whole thing, the matter was taken lying down. All through, this desire to let others get what they wanted has been a weakness, I admit, on my part, and on the part of others who think with me.

That District Associations expressed no dissent to clauses of the Bills or to the Bill itself at the time, is an imperfect statement. We made no fuss

in public, it is true, but growls among ourselves were not wanting, and they were only prevented from assuming alarming loudness, by promises made to us quite distinctly that (1) we need not accept the Bill, unless we asked for it, (2) that if we liked, we could have the bill on trial for one year. The first promise has so far been kept, the second has been broken. We were told that although the Act might not be considered by us to be suitable to ourselves, it was suitable to other districts and that it was not right on our part to withhold from others the chance of getting what they wanted,—so we lay low.

I have never done anything but recognise the duty of Government to look after the health and comfort of labourers; they have power to do so, without any special legislation such as Act I.

The *Madras Times* says "We note that at the last Meeting of the U. P. A. S. I. a Resolution was carried inviting the Government to accept a New Scheme for improving the conditions of labour recruiters and recruited in the Presidency." This also appears to me to be an imperfect statement, and the possibility of any retort from Government does not need to be considered. I do not want Act I of 1903, because :—

- (1) It will, I fear, diminish my labour supply, and cannot increase it.
- (2) It does not give specific performance, and it never will.
- (3) It does not help me in recovering advances, and cannot do so.
- (4) Its power to prevent crimping is limited to the extent clearly indicated by the Coonoor Case.
- (5) I can deal with the above points better without it.
- (6) Most important of all, I am content as I am.

My attitude is, that any Association that wants Act I of 1903 may get Government to apply it to their District and welcome; I stand in no one's way.

I claim that this is in marked contrast to the apparent intolerance of those planters who wish to have the Act forced upon me against my will.

My own opinions will naturally carry little or no weight; so I must remind you, Sir, that the Association to which I have the honour to belong, is the largest on the rolls of the U. P. A. S. I. and that it is an Association so far as I know unanimous on this point of legislation, and they do not want it. Are Associations in favour of the Act equally unanimous? We now know that Mr. Malcolm's speeches in favour of Act I of 1903 at the last U. P. A. S. I. Meeting were meant (according to a Resolution recently passed by the Association represented by Mr. Malcolm), as an expression of the opinions of some individual members, and were not made as a representative of his Association.

The Wynaad Association also regrets what Mr. Romilly said about Mr. C. E. Abbott, and is not in accord with the views the former expressed at the U. P. A. S. I. Meeting.

Mr. Romilly, as Editor of the *Madras Times*, is of course responsible for the leaders in that paper, to which I have referred.

Mr. Editor, if I have inflicted myself on you at too great length, please tear this letter up.

SRIVILLIPUTTUR, }
19th September, 1909. }

Yours faithfully,
AYLMER Ff. MARTIN.

The results of the efforts of the China Tea Association in London to push their wares in England are considered so satisfactory by the *North China Herald*, that it urges the Government to accord the Association further financial support. Last year it received 12,000 taels from this source, and the *Herald* thinks that a further subvention should now be forthcoming for the purpose of pushing the trade in the British market. "With the close of this year," it observes, "the subscriptions of the Hankow tea-men and of the Keemun tea-men to the Association will cease, and while the Keemun tea-men have promised to continue their support for the next few years, the subscription is not large, and the loss on other sources must cripple the Association severely. It would be, to use a mild term, unbusinesslike to allow the work of propagation to languish pending the day of wider reforms in which China's tea trade shall be able to stand alone on its own merits."

The Planters' Chronicle.

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VOL. IV.]

NOVEMBER, 1909.

[No. 10.

U. P. A. S. I.

INCORPORATED.

Madras Act I of 1903, &c.

At the recent Quarterly General Meeting of the North Mysore Planters' Association it was resolved:—

"That this Association is opposed at the present to the introduction of Act I of 1903 into Mysore, and is not prepared to accept the Act at the dictum of 2/3 or any majority of votes of the U. P. A. S. I. when Government has given each District the option of accepting or rejecting it."

At a Meeting of the South Travancore Planters' Association on the 9th October, 1909, the following Resolutions were passed:—

"Resolved that the members of this Association are unanimously opposed to the introduction into Travancore of Labour Legislation by Madras Act No. I of 1903."

"Resolved that while admitting the possible advantages of Mr. Brock's Labour Registration Scheme, and the large amount of thought and care that had been given to it, that this Association considers it impracticable, and it was also further resolved that the appointment of a commission to inquire into the present methods of recruiting labour was unnecessary."

At the General Meeting of the Kanan Devan Planters' Association on the 23rd ultimo, the following Resolution was passed unanimously:—

"That this Association after giving careful consideration to the arguments brought forward at the U. P. A. S. I. Meeting of the current year, wishes the Council of the U. P. A. S. I. to understand that it is very strongly opposed to the introduction into this District of any Act similar to Act I of 1903."

The above was supplemented by the following rider:—

"That this Association views with grave concern the resolution passed at the U. P. A. S. I. Meeting above referred to which shewed a disregard for the interest of individual District Associations, rendering it possible for the votes of other Districts (the feeling in which is by no means unanimous on the subject) to force legislation upon any District where the feeling against it is unanimous. Any such action taken by the Councillors of the U. P. A. S. I. will be held as distinctly inimical to the interests of this Association."

On the same day at a Meeting of the Central Travancore Planters' Association it was resolved:

"That this Association, while believing that a Labour Act based on the principles of Act I of 1903 is necessary, is of opinion that the present Act is quite unsuitable to this district and should not be introduced into Travancore."

At a Meeting of the Coorg Planters' Association on the same date the following Resolution was carried :—

"That this Association having carefully considered Act I of 1903, does not find it at present suited to the Local conditions of this Province, and therefore declines to ask for any alterations in the existing Labour Law."

As regards Mr. Brock's scheme the feeling of the Meeting was that the scheme should be left for the present to be discussed by those whom it more nearly affects. The scheme, in its original form, is considered to be too elaborate.

Delayed Mails.

In acknowledging receipt of a letter dated the 24th August, 1909, drawing attention to a notice issued by the Superintendent of Post Offices, Madura Division, in June last, announcing that there would be some delay in the transmission of parcels and registered articles, the Madras Government state that they have received reports on the subject from the Inspector-General of Police, Madras, and the District Magistrate, Madura, and are now in communication with the Postmaster-General, regarding the matter.

Pepper-Vine Disease.

Correspondence with the Madras Government and the Officiating Imperial Mycologist has resulted in the decision that this official, Mr. William McRae, is to visit the Wynaad District early in November and investigate the Pepper-Vine Disease there. If possible, Mr. McRae will then proceed to the Mysore State to conduct a similar investigation; but it is not certain that he will have time for this.

The Scientific Officer to the U. P. A. S. I. will accompany Mr. McRae.

As at present arranged, these gentlemen will arrive at Calicut on the 9th instant, and proceed to the Wynaad early on the 10th idem. The Honorary Secretary, Wynaad Planters' Association, is arranging the necessary programme.

"Cups" at the Grocers' Exhibition.

The following extracts from comments of the *Grocer* (under the caption "The Competitions"), upon certain features of the latest annual Grocers' Exhibition at London, are instructive :—

"As to the working competitions, the proprietors of *The Grocer* offered two fifty-guinea cups, and for the cup for tea blending the entries showed that increased interest is being taken in the competition year by year. The competition is followed by the trade with a keenness which shows that the possession of this Cup is regarded with the utmost interest, and we have been assured that the winners have found that the Cup has proved a substantial commercial advantage to them, whilst the work necessary for the winning of it has called forth the very best qualities of competitors. We understand that some criticism has been levelled against this competition, but that is, perhaps, not to be wondered at. Any new departure is certain to be the subject of criticism, whilst everyone knows that it is more easy to be cynical than to be optimistic, and more easy to criticise than to construct. We can assure our readers, however, that we have made the fullest possible inquiries as to the methods under which this competition is conducted, and we unhesitatingly assert that the most skilled and practical advice is obtained for the purpose, fully testing the ability of the competitors, and we are able to assert, on the best authority, that the winning blends have deservedly received the awards. Referring to the other *Grocer* Cup—that for coffee roasting and blending—it is a somewhat curious thing that though there is a goodly number of competitors each year, the interest is not as keen as in the case of tea. Presumably the explanation is that retail grocers have not yet realised the possibilities in connection with the sale of coffee to the public. This, no doubt, is due to the present lack of an educated taste on the part of the public for this beverage. There is no doubt that the grocer who takes

up coffee as a leading line has to educate his assistants as well as himself, and, above all, to educate his customers. All this shows that there is here a field for retail grocers, which, as yet, is only very partially occupied. Coffee will not sell itself until a demand has been created; it must be pushed, and it is best pushed by painstaking effort to teach the customer how the coffee that has been purchased gives the best results in the cup. Those grocers who have adopted that line assure us that the result is very satisfactory, but this result can only be obtained by the most efficient and pains-taking persistence, and, in spite of seeming failure and disappointment, if the grocer will vigorously hold on to this branch of his trade, we feel sure that he will ultimately find he is amply repaid for his effort.

"Referring to the other competitions, we are pleased to find that, alike in the tea and coffee classes, continued interest was shown."

"Fazenda" Coffee.

How Sao Paulo Coffee is being pushed in the United Kingdom may be judged from the following extract from the *Grocer's* descriptive account of various stalls at the Seventeenth Annual Grocers' Exhibition and Market at the Agricultural Hall, Islington, in September last:—

"STATE OF SAN PAULO (BRAZIL) PURE COFFEE COMPANY, LTD.

"(62A, King William-street, London, E.C.)—This Company had an elaborate scenic exhibit in the Gilbey Hall, which was transformed in such a manner as to enable visitors to readily realise the manner and method of the production of "Fazenda" coffee, which, as is well-known, is exported under the auspices of the Government of the State of San Paulo. On entering the hall the visitor obtained a view of the marble palace of the Governor of San Paulo. Passing along, one next came to the rural section of the State, wherein was set the cosy bungalow, and the Fazendeiro or planter, his wife, and family, were represented. In the next scene were portrayed the processes of gathering and drying Fazenda coffee. Workmen's huts, typical of the country, were seen in the adjoining plantation, where the coffee trees in berry were also shown. The art of scenic illustration was requisitioned in order that the visitor should see something of the natural beauty of the State. The mountains and rivers and forests of San Paulo were represented in excellent manner, whilst there was also a spectacular display of the quay at Santos, the port of San Paulo, from which go the ships laden with 'Fazenda.' The scene revealed the landing stage, piled with bags of coffee, with bands of natives engaged in the work of loading a steamer bound, perhaps, for Britain. The scheme was developed into a veritable pageant of pictures, the colours blending with harmonious effect. The exhibit was of a great educational character, enabling, as it did, the visitor to realise something of the vast resources of this tropical country. Members of the trade who were able to visit the exhibit went away impressed with the excellence of the display, and, be it added, with a broadened view of the possibilities of the Brazilian coffee industry. Throughout the week the representatives of the Company were in attendance ready to explain the points of interest—and they were manifold—concerning the country and its products. There were numerous kiosks and stalls arranged in the hall, whereat refreshments might be taken, and visitors, on leaving, were handed a sample tin of 'Fazenda' coffee. In the Gilbey Hall has been located at one time or another many exhibits of interest, but it may be truly said that few, if any, have surpassed the present one for general excellence, and much credit is due to the organisers for the production of so attractive a display."

A photographic view of the exhibit is given, and the following Notes are printed beneath it:—

"Gilbey Hall, the annex to the Agricultural Hall, has housed many industrial exhibitions, but possibly there has never been presented so forceful, so unique or so singularly ingenious and attractive a production as the one on view at the Grocers' Exhibition of 1909.

"On passing through the entrance to Gilbey Hall, the visitor found himself suddenly transported to a land of forest-clad mountains, towering to glorious skies. Here swarthy natives, amid palm trees, were engaged at work upon something which anon explained itself. There was a street in a flower-decked, marble-built city of South America.

"The visitor found it hardly conceivable that, within a few feet of Essex Road, he was able to bask in tropical sunlight, to wander through a Coffee plantation set on the mountain side, and wherein the Coffee trees appeared to be growing.

"The section of the Gilbey Hall exhibiting the chief industry of San Paulo was designed to demonstrate the production and preparation for table of 'Fazenda' Pure Coffee, which, as every one knows, is sent to this country under the ægis of the Government of that State, each tin bearing the Official Seal and Guarantee of absolute purity affixed by the Government delegate resident in London.

"The tableaux of scenes were as follows:—The Marble Palace of the Governor of San Paulo, the Rua St. Benito, one of the principal thoroughfares and the Public Gardens of San Paulo. The rural section of the State showing a typical home of the Fazendeiro or planter. The various and interesting processes, *e.g.*, gathering and drying 'Fazenda' Coffee. A small plantation in which Coffee trees were in flower and berry. A marvellous and spectacular display illustrated the quay at Santos, the Port of San Paulo, from which are shipped nearly three-fourths of the Coffee consumed by the world. The landing stage piled with sacks of Coffee, and gangs of natives engaged in loading a steamboat destined for some port of Europe or America."

The Mysore Industrial Exhibition.

In strong contrast to the care displayed in respect to the above Exhibits in London was the absence of any attempt to make a good display of planting products at the Exhibition at Mysore. Some support had been promised by planters, and was given; but the exhibits were few in number, and no one had troubled to arrange them to the best advantage. The infant Rubber industry made the best show, not merely comparatively, but absolutely. Of Tea there were some few samples, partly in the Industrial Exhibition and partly in the Health Exhibition—which latter was, this year, held quite separately and in another part of the town. Coffee, Cardamoms and Pepper were certainly represented by a few exhibits, but they were not displayed with a view to catching the eye of the public.

It is to be feared that planters regard the Mysore Exhibition as only a petty show; but it is a great deal more than this, and might be of use to planters themselves if they would combine to open a small pavilion, and perhaps a "demonstration" Tea and Coffee Room. Well grouped exhibits are always more effective than stray or scattered specimens; and with a few more exhibits and capable organization a Planters' Pavilion might be made a feature of the next Exhibition at Mysore, at small cost and with a fair prospect of beneficial results.

Of the lectures delivered during the holding of this Exhibition, only one appears to call for special notice here; *viz.* Mr. G. H. Krumbiegel's address on Fibres, which was much more interesting than readers of the subjoined outline report are likely to imagine; for, naturally, the exhibits that served to illustrate the lecture cannot be reproduced in these pages. Mr. Krumbiegel was to have lectured also on the subject of "Rubbers," but the programme was changed and this item omitted.

COMMERCIAL FIBRES.

In the commerce of the world fibres hold a very high place, and a knowledge of this subject is of the greatest importance.

To treat the subject anything like exhaustively would require a long series of lectures. My object being a simple introduction rather than a scientific elaboration of the subject, the remarks must of necessity be brief and general.

The uses of vegetable fibres are almost inexhaustible.

Besides those very important classes employed in the Weaving Industry, in paper manufacture, for cordage, etc., there are a very great number that support other special industries either direct, as in the case of incandescent mantles, or indirect, when they form admixtures to animal wool, silk, etc.

Apart from the classification according to their utility we may study fibres morphologically according to their structural distinction; that is, whether they are derived from the bark and stem, as in case of bast-fibres, from the leaves, *e.g.*, Agave fibres, or are seed-hairs, such as cotton, etc.

You may also study them botanically according to their natural order, but this is often complicated by the fact that one and the same plant may furnish different kinds of fibres.

Notwithstanding the great variety of fibres and the very different kinds of plants yielding them, the essential element on which their value depends is always the same.

A fibre to be of any value must consist of a substance chemically called Cellulose—the larger the percentage the better, in a general sense, is the fibre.

Cellulose may be described as the essential part of the framework of plants.

In the young cells of plants the wall is found to be of a delicate but firm and elastic membrane. This wall consists of cellulose.

As the plant grows, many cells become encrusted with resins and other substances which in some parts fill the cavity completely; in some tissues, however, little or no incrustation is formed, and though the cell walls thicken they consist almost wholly of cellulose. The seed-hairs forming the cotton and the floss of the silk cotton are almost pure cellulose.

Though, as is clear from what is said, cellulose is found in all parts of the plants, the parts of special value for yielding commercial fibres are cells which occupy a definite area or position in each plant.

These are called fibre cells. But it would be going beyond the scope of this lecture to enter into the morphological details in the different kinds of fibre plants.

In order, however, to investigate raw fibre a botanical study is necessary.

In the great division of plants, Dicotyledons (plants having the parts of the flowers in 4's or 5's and with leaves the veins of which form a network) the fibrous cells are to be found in the bark, the middle or lower layers.

In the Monocotyledons (plants with parts of flowers usually in 3's or 6's and leaves with parallel veins) the fibre cells are built up with vessels into composite structures known as fibre-vascular bundles which are regularly distributed in the fleshy leaves and stems and are not formed into a continuous tissue as in Dicotyledons.

Now on the uniformity of length and diameter, the tenacity, flexibility and smoothness of the Fibre bundles (or filaments) depends the spinning quality, whilst the length, thickness of walls, tapering ends of the fibre cell are a very material factor in the strength and durability of the manufactured goods.

In careful investigation such as commercial experts have to make a microscopic examination would therefore be necessary as also a Chemical investigation in order to determine:—

- (a) Its hygroscopic moisture—that is, the moisture taken up by a fibre after being dried in a high temperature.
- (b) Its mineral constituents—that is, the percentage of ash left after burning the fibre.
- (c) Its percentage yield of cellulose on the raw fibre.

Commercially, fibres are generally classed according to their utility.

1. Textiles (cotton) Flax, Rhea, Jute, Ramie, etc.
2. Rope or Cordage fibres—Manilla, Sisal, Mauritius hemp.
3. Brush and Mat fibre (Coir, etc.).
4. Paper materials.

My purpose being an introduction to the principal fibres exhibited I will take them up now and add a few remarks on the cultivation, geographical distribution and commercial aspect as we proceed.

The samples that I shall pick out from the large collection exhibited belong chiefly to the second group, because it is amongst these that we find some very promising kinds which are either new or not sufficiently known here, while others pertaining to special industries such as the textile and brush manufacture and paper making must form subjects of separate lectures.

A very large and important group are the Agave fibres, wrongly called *Aloes*. Every species of Agave or *Century plant* contains fibre, but we may regard some twelve species as yielding Commercial fibre.

Foremost is of course the Sisal hemp, *A. rigida* var. *Sisalana*. It is a native of Yucatan and was first introduced to Europe in 1879. The fibre is far superior to any of the hemps. Cordage made from Sisal is much more durable, lighter, and much more pliable than those of hemp. It requires no tarring, and as it stands the alternations of dryness and moisture with little injury it is now largely used in naval cordage. Tarring considerably injures ropes, and on that account Sisal, which requires no tarring, is not only much stronger (some say four times) but has also a much longer life than other hemps. Sisal is of comparatively easy culture; it requires but little attention once it is established, but not having any marginal spines or teeth, it should be protected from cattle when young. The cultivation of Sisal has now spread all over the tropics, and samples from British East Africa lately fetched £35 per ton. We have a large number of plants that are poling, and I am sorry to see that so little is taken up in the State. While I send some 50,000 bulbils annually up-country, it pays the grower, but does not help the State. I should strongly advise taking up Sisal cultivation.

Similar to Sisal is the Mauritius hemp, *Fourcroya gigantea*. Originally introduced to the Mauritius from South America, it is now a valuable industry in the Island.

It has a better lustre and firmness and is used for more ornamental cordage than Sisal, but is not nearly as strong.

On the other hand, it is even more easy of cultivation.

Another fibre allied to the class is the Bowstring hemp, *Sanseveria*. There are some four or five species in cultivation, and its fibre has been valued at £30 per ton. Cultivation is comparatively easy, and yet one does not often see it commercially grown. No doubt it has a serious competitor in the Sisal and Mauritius hemps.

Manilla hemp will be familiar to you all, as much is being imported and used here. It is furnished by a plantain tree, *Musa textilis*, and, as its name implies, comes from the Philippines.

Manilla hemp is still the most used of white cordage fibres and rules the prices, as much as £50 being paid. We have now a good number growing in the Lal Bagh, and as soon as I can find suitable spots in the districts I hope to send it out.

In the Machine shed you will be able to see a hand-machine such as is used in the Philippine Islands for extracting the fibre. It is used here for extracting fibre from the common plantain tree. This fibre, though not by any means comparable with Manilla hemp, has its uses, and I should strongly advise growers of plantains to invest in a machine of this type and extract the fibre from the stems instead of throwing them away.

These have so far all been fibres derived from the Monocotyledons. To take a few of the other section:

Ramie or Rhea: *Bahmeria nivea* (a plant of the nettle family). There are two forms of the plant yielding this fibre.

The one furnishing the true China grass has leaves with a white surface beneath. This form grows largely in Assam and is essentially a temperate plant.

The other form *B. nivea* var. *tenacissima*, is a tropical plant and furnishes the Ramie fibre proper.

It will be evident from the terms temperate and tropical that the first will not do in the temperatures where the true Ramie will do, and it is possible that in many places the failure of the Ramie is largely, if not solely, due to the fact that the two have got mixed up.

Even in commercial circles Ramie has been generally mixed up with China grass and this has led to disputes, so that it is difficult to say which is the better in quality.

However, Indian Ramie has generally been considered inferior. This and the difficulties in extracting the fibre and freeing it from resinous admixtures caused its cultivation in India to decline. Subsequently, however, better machines were invented, and with the advent of the incandescent mantle came an increased demand for Ramie, so that as much as £50 and £60 has been paid or offered per ton.

Ramie is also largely used in the manufacture of electrical goods, but there is now a new paper patented in Italy which it is said will supplant Ramie (so far as these industries are concerned at least.)

On the other hand there is increased demand for it in the manufacture of underwear in the northern countries of Europe, and now that we are likely to make our holiday trips by aeroplane to the North Pole instead of Ooty, this demand is bound to increase.

Ramie requires some cultivation but it is worth taking up.

Another fibre I must mention here which is also largely used for incandescent mantles, and that is the Madar (*Calotropis gigantea*.) It is growing as a weed throughout India and has, to my knowledge, so far not been in cultivation. Its seed-hair as well as the fibre from its stem are very silky and I presume are largely used as admixtures with silk.

The latest thing in fibres is a plant closely related to this *Calotropis*, and as this is likely to prove a great success, I have put it under extensive cultivation with a view of getting plenty of seed for distribution.

There is hardly any literature on this fibre yet, but to describe it I will just read to you an extract of what the discoverer says (in the *Gardeners' Chronicle*, I think it was).

(*Asclepias semilunata*). By Chas. A. White, F.R.H.S., &c. "When the South African War broke out, I got the war fever, and proceeding to Africa, remained there, having travelled from the Cape to Zambesi, Portuguese Africa, and then to the Equator and Congo. In all these countries this particular plant was seen in isolated parts, but not cultivated. Nobody knew of its value, only that the silky cotton could be used like kapok for stuffing furniture, and would not pay to export. This is merely mentioned to show that it can adapt itself to various climates, although indigenous to the Congo, Uganda and Abyssinia. While at Uganda, planting rubber at the head of the Nile on the Victoria Nyanza, I wanted some rope for a line, and requested a native to get some, thinking he would get the bast of a banana. Much to my surprise, the boy started pulling this particular plant, and drawing the fibre, then twisting it into rope of remarkable strength. I then forwarded samples of rope, fibre, and Botanical specimen to the Imperial Institute, London, with the result that the plant was identified as *Asclepias semilunata* and the fibre, if properly prepared, was valued, on the London Market at £35 per ton. The examination of samples sent from Uganda has shown that it is very strong and of excellent quality, and would doubtless be useful for cordage manufacture, but it has not yet been exported in sufficient quantities for actual trials on a manufacturing scale. It is possible that the fibre might also be utilized for the manufacture of explosives, but this question is at present under investigation. I sent a sample of the fibre and a quantity of seed to the Honorable John Perry, M.P., to test if it can be successfully grown in New South Wales. I feel confident that it can be profitably grown, as its geographical distribution is so well-known to me; I have seen it at an elevation of 7,000 ft. above sea-level at Johannesburg; also

at Rhodesia, and in Australia; but have not seen it near the coast, though it may succeed near the sea. The cultivation of *Asclepias semilunata* is simple: sow as you would wheat or oats, after the land has been harrowed; seed thickly, so as to produce stems 5 ft. to 6 ft. long. It will grow on stony land, on the flat or hill-sides; it requires no irrigation, and will withstand drought with impunity. With cheap freight from Sydney to London, let alone local market, this fibre may prove to be a desirable subsidiary industry for New South Wales. The writer, who is an Australian, thinks that the seed must at some time have been introduced into Australia by the late Baron von Mueller, otherwise it is a mystery how he saw it at Coolgardie. The writer trusts that through the columns of the *Agricultural Gazette* more will be heard from tests in New South Wales.

"The sample of fibre forwarded to the Honorable the Minister for Agriculture was submitted to Messrs. Forsyth & Co., rope manufacturers, Sydney, who reported as follows:—'The fibre is equal to Manilla, and is valued at £35 per ton. The length and colour are good. They would give £35 per ton for it, but the fibre must not be less than 4 feet long. The quantity submitted was too small to make a test.'"

This, gentlemen, must be enough for to-day, and if the lecture will result in a closer study of the fibres that are exhibited and will lead to wider cultivation, it will have served a good object.

Scientific Officer's Papers.

VI.—TREE STUMPS AND ROOT FUNGUS.

In the Report of the Government Mycologist for the Federated Malay States for 1907, it is stated that the greater number of inquiries from planters in respect to diseases of Rubber referred to the root disease caused by a fungus which spreads from some of the old jungle stumps among the rubber trees to the healthy young plants of fifteen to thirty months old. It is also reported that the fungus has on several occasions been traced from an old stump in the nursery to young plants in its neighbourhood.

Whenever forest land is cleared and crops such as Coffee, Tea and Rubber are planted up in Southern India trouble is usually sooner or later experienced from the dying-out of the plants near certain old stumps, while certain shade trees, if killed or felled, are known to cause the death of the surrounding plants of the staple crop.

It will be useful to have on record a complete list of the trees which are known to produce this trouble, and it is hoped to compile such a list as soon as possible.

In Mysore the worst offenders appear to be the White Cedar, or Houligue (*Acrocarpus fraxinifolius*), Cinnamon (*Cinnamomum Zeylanicum*), and Bassari (*Ficus infectoria*). Others are suspicious and under observation, such as the Jack (*Artocarpus integrifolia*). The Silver Oak (*Grevillea robusta*) is in some places accused of inducing the disease, but probably both it and the Dadap (*Erythrina*) are victims, like the Coffee, to the fungus which has spread from some tree like the Houligue.

I shall be glad to have the names of such trees as are really known to cause this disease in Coffee, Tea and Rubber, sent into my office, or, should the names not be ascertainable, herbarium specimens prepared to show leaves, flowers and fruit, in order that they may be identified. Such names and specimens should be sent to the Secretary of the U. P. A. S. I.

These trees should not be planted in new cultivations as shade, and when it is necessary to remove such for any reason from old cultivations care should be taken to burn the stumps, and remove and destroy as many of the roots as possible.

The trouble is caused by one or more fungi, of which *Rosellinia* is well known to Tea planters. The soil contains the spores of these fungi. The spores themselves are incapable of germinating on, or growing in, living root tissue; when, however, decayed roots are present, owing to the death of a tree

the spores can, and do, germinate on the decayed matter, and they then produce a mycelium which has the power of passing on to, and growing on, living roots. This mycelium creeps through the ground from root to root, and plant to plant, of the staple crop, destroying them in an ever-widening circle.

The symptoms of the disease are well known to most planters. A plant will one day show signs of bad health, the leaves gradually wither, turn brown, and fall off, while the plant shows no other sign of disease on the leaves or shoots. The shoots rapidly follow the leaves, and finally the whole plant dies from the top downwards, the complete process often taking place very rapidly. Plants in the neighbourhood then follow suit as the disease spreads.

When a dead plant is dug up the main roots are found to be rotten, while, round the collar, and below it, is a black charcoal-like mass cementing earth and stones to the plant.

In some districts in Mysore I was shown a root disease of Coffee which causes similar outward symptoms but takes much longer to kill the tree out right, sometimes as much as twelve years. All the while the trees look "shuck" and sickly and never respond to any manurial treatment as they should. These plants when dug up do not exhibit the charcoal appearance, but instead have round the collar, and on the main roots, a black bruised appearance, covering larger or smaller patches, the cambium and bark being rotten and slimy over these patches. In the final stages the tap root is found to have rotted.

It is quite possible that this may be due to a different fungus from the last, though a similar one, but it is impossible from merely field examination to say whether this is the case or not. A great many things point to the probability that the fungi are identical, but in different stages of their existence. As far as I could ascertain, this form of the disease always begins as the first form, which has been neglected and has spread over a large area. Possibly the fungus by growing on from plant to plant over a series of years in a purely vegetative way has grown weaker, and so takes longer to kill. This is only a conjecture, and nothing definite can be said on the point until a comparison has been made between the two forms in the laboratory. From the practical planter's point of view, however, it is immaterial whether the two fungi are identical or not, as the preventative methods to be adopted are the same in both cases.

From the nature of the disease a cure is almost impossible once the plant is attacked, and it is often difficult to detect the attack until the mischief is done. Efforts should be concentrated upon preventing the spread of the disease as soon as its presence in any given spot is detected. Diseased patches should be isolated by digging a trench round them deep enough to get below the root area, and the excavated soil, which may contain fungus, must be thrown into the isolated area and not outside it. The trench should be dug completely round the diseased patch and enclose a fair-sized area around the centre of infection to ensure getting beyond the range of the fungus mycelium. Care should also be taken to prevent the fungus being carried to uninfected areas on tools, coolies' feet and clothes, &c.

Forest and shade trees known to initiate the disease should, if they must be removed, or are likely to die, be *completely* surrounded by a trench, as described in the case of the diseased patches, while plants which have died from the disease should be dug out and *burned*, to prevent the fungus producing spores which will be carried about by wind and water and spread the disease outside the isolated areas, which will happen if the dead stumps are left lying on the ground. Wherever it is possible tree stumps should be dug out and burned. For this work probably some form of monkey jack will be found both useful and labour-saving.

Good drainage is also essential, as stagnant water in the soil encourages the growth of the fungus.

The use of fungicides has in some cases given good results. Lime applied generously in an unslacked form nearly always gives good results, and it should be used on patches where trees have died of the disease, and been removed.

Ferrous Sulphate also, broadcasted and lightly pricked in at a season of gentle rains, so that it can percolate slowly through the soil and bathe the roots, has in some places given excellent results, especially when used at the beginning of an attack.

Experiments have been arranged on a number of totes with this fungicide, especially in connection with the slower form of the disease described above. Results will be published in *The Planters' Chronicle* as soon as they are obtained. This fungicide is quite cheap, and can be obtained at about Rs.72 per ton, and an application of six to eight ounces per tree should be broadcasted.

After a plant has died of root fungus it should not be immediately replaced, or the supply will probably be attacked. It should be dug out and burned on the spot with as many roots as possible, quicklime or Ferrous Sulphate, freely applied, and the patch deeply forked up and left with as much surface exposed to the air as possible (by heaping) for a year before planting a new supply.

Finally, great care should be taken about nurseries, and no stumps, or dead roots, should be allowed to remain in them. Any young plants put out from a nursery infected with root disease will not only die, but form a centre from which the disease spreads. In land known to be infected with the disease it may possibly be found a good plan to soak the roots of the young supplies in Bordeaux Mixture before they are planted out.

VII.—INSTRUCTIONS FOR PREPARING PLANTS SENT TO THE SCIENTIFIC OFFICER FOR EXAMINATION.

The Scientific Officer is now in a position to receive plants for identification, &c., and particularly desires specimens of Leguminous and other weeds likely to prove suitable for cover crops, or weed killers, and also of trees which are known to produce stump rot in Coffee, Tea and Rubber. (*Vide* Sc. O. papers, No. VI).

Fresh material should not be sent, as it is apt to spoil in transit, and it is not always possible to attend to it immediately upon arrival, and then it spoils entirely, and time and trouble are wasted.

Herbarium specimens, therefore, should be prepared, and the following instructions for preparing such specimens may prove useful.

The plants as soon as gathered should be spread out as smoothly, and naturally, as possible between sheets of blotting paper, or newspaper, about 17 by 11 ins., and these sheets placed one on the top of the other. When the pile is complete it should be placed between two boards about 18 by 12 inches and on the top a weight of about 15 lbs. should be placed. A pile of books, or stones, makes a convenient weight for the purpose.

Each day the sheets of paper should be changed until the plants are quite dry, when they can be sent in to the office, c/o the Secretary of the U. P. A. S. I.

Whenever possible the whole plant, including the roots, should be collected, and each specimen should include leaves, flowers, and fruit. In the case of shrubs and trees portions should be prepared to show leaves, flowers, fruit and a piece of bark.

In all cases several specimens of each kind of plant should be sent.

Great care must be taken about labelling. To each specimen a label should be tied securely, on which should be recorded, the locality in which the plant is found, the date on which it flowers, the elevation and approximate rainfall, the colour of the flower, and any other information which may prove useful, such as the local name, whether the plant grows in the open or in shade, or in communities, or mixed with other plants, and so on.

Specimens received will be named, and the names and any notes of interest about them published from time to time in *The Planters' Chronicle*.

VIII.—TOUR IN NORTH AND SOUTH MYSORE.

Leaving Bangalore on 22nd August, and returning on 30th September, I made an extensive tour through North and South Mysore, and thanks to the excellent arrangements made by the Secretaries of the local Planters' Associations, I was able to cover a large tract of country, and visit many Estates, and despite the heavy rains to do a good deal of work. The following Districts were visited:—Koppa, Kadur, Sallebille, Mudigere, Balur, Saklasapur, Belur and Hassan.

Black Rot.

The monsoon season was chosen in which to visit this District in order that I might see the Black Rot at its worst, and in some places it certainly is very bad, and does a considerable amount of damage. It is a fungoid disease about which very little is known; it has been given a scientific name—*Pellicularia Koleroga*—and that is about all. It presents many difficulties, and indeed the planters themselves seem to know little about it, and hardly any three agree as to even simple points about it, such as where the attack begins. It is an epiphytic fungus; that is to say it grows on the surface only and does not enter the tissues of the host plant; it kills the leaves and young wood and berries by choking up the stomata, or breathing pores. Under the lens the fungus appears as a network of closely interlaced grey mycelia, which exude a gummy matter which cements the whole mass together so that it can be peeled off in strips.

I am not prepared at this stage to say much about it, for I saw it when it was too far advanced for much to be found out about it. Next year I should like to visit the infected districts before the monsoon breaks and study the whole development of the attack. It appears to be largely climatic, and requires a still atmosphere saturated with moisture, and for this reason it is usually worst in sheltered places where the mist and clouds hang.

I would suggest that coffee known to be generally attacked by Black Rot should be pruned and handled before the monsoon breaks. It is probable too that scraping the stems and primaries is beneficial. I would here point out that on some estates this stem scraping is being done in too severe a fashion. The object of the process is to remove dead bark and moss, and care must be taken that the living bark underneath is not scraped off or damaged. A blunt instrument should be used, such as a piece of bamboo. In some instances iron hoop is used, and this though supposed to be blunt is often either intentionally sharpened by the coolies to make the work easier, or becomes sharp from use, and then the bark is injured.

Stump Rot and Root Rot.

In many districts very considerable damage is being done by the ordinary Stump Rot which spreads from certain forest and shade trees when they die, and also from a Root Rot which is possibly due to the same fungus. This disease has been dealt with in a separate article (*vide* Sc. O. papers VI) and it is only necessary here for me to impress upon planters the necessity for taking the precautions recommended and carefully isolating the diseased areas by trenches

Leguminous Plants.

Throughout my tour I examined the local flora for leguminous plants suitable for green dressings (*vide* Sc. O. address to the U. P. A. S. I. Meeting) and found a large number of promising-looking plants growing freely. I arranged in several places for definite experiments to be tried with a number of these, and thanks to Mr. Graham Anderson, C. I. E., a collection of the best of them has been made, and the local names ascertained. These will be identified as soon as possible, and it is hoped at an early date to have some definite information about these weeds for publication. In the meanwhile I shall be glad to receive specimens of as many leguminous plants as possible

from different districts (*vide* Sc. O. papers VII). I may say here that the most promising-looking plants I found in my tour were known in Kanarese as, Cara Poot Hulloo, and Yairdee Biloo, and I recommend these for trial until something better is found.

Mulching.

It is important to keep a mulch on the soil. In old established coffee which has closed in a mulch is usually established, formed from the fallen leaves of the shade trees. In young clearings it is not quite so easy to establish a mulch, but it is even more important that it should exist. Nothing brings on young clearings so quickly as a good mulch. The soil should never be exposed at all. Bare soil is washed by the rain and the surface tilth carried away, and the top soil puddled, and then it is baked by the sun into a hard surface which prevents the roots getting air and water, while in the dry season the bare soil quickly dries out and the young roots are killed. In this case constant digging becomes a necessary evil. All this can be avoided by keeping a mulch on the ground. In the wet season this mulch should consist of a growing cover crop of weeds, leguminous for preference, to keep down grass and other harmful plants, and at the same time add nitrogen. In the dry season this cover crop is cut and supplies material for a dead mulch. Should the material be insufficient, mulch should be cut from waste lands and carried into the clearing and spread. At all costs the soil should be kept covered up so as to preserve the soil moisture and the tilth.

Cultivation.

In my opinion too much digging is being done in old coffee in the District. Coffee is essentially a surface rooter, and the whole of the top soil, under old plants especially, is found to be full of fine feeding roots, and these should not be disturbed. I am quite aware of the fact that in some cases the soil has become hard and puddled, and that then digging, though it damages the roots, becomes a necessity; but this is due to previous wrong treatment. As stated above, a mulch should be kept on the soil from the very first. The clearing should in the first instance be deeply trenched through, two forks deep, if possible, care being taken not to put the bottom soil on the top, and as many roots as possible taken out to be subsequently burned. This work should be done in the dry season. In the succeeding monsoon the forked land should be thickly sown down with a suitable legume, and when the planting season comes this should be weeded out round the stakes, and the plants put in. Each succeeding year the soil should be forked between the rows in strips as wide as possible without disturbing any roots, and the mulch replaced to maintain the tilth obtained by digging. Each year the strip which can be safely forked will become narrower and more narrow until the coffee closes in and no digging can be done without cutting roots; it must then cease entirely. If this treatment is consistently carried out from the beginning, the soil will be in such a good mechanical condition, that no digging will be necessary again, provided a permanent mulch is kept on it.

When forking is absolutely necessary I would suggest that a method of "pricking" should be adopted. This consists in driving the fork in perpendicularly and shaking it without turning up a lump of earth. This will aerate the soil with a minimum disturbance of roots.

Manuring.

The best way of applying manure to coffee is to broadcast it and cover it with a mulch, or earth. When a mulch is established it should be raked up, the manure spread evenly and the mulch put back to cover it. Manure the soil, in fact, and not the plant; an even distribution of plant food through the soil ensures an even distribution of roots, which is of great advantage when drought is to be resisted. When the soil has been treated as described in the above remarks on cultivation the surface will be a mass of feeding roots below the mulch and the manure should be placed on these so that they can get it quickly and easily.

I would suggest that manures should be applied in March. The potash which is the most soluble ingredient of a complete fertiliser mixture lasts the shortest time, and at this period is needed most to form the berries. The poonac and bones probably last over till September, when they are most needed by the new leaves and growing wood.

I also strongly recommend the systematic use of slacked lime at the rate of two tons per acre. This should be broadcasted and must be covered up from the air by a mulch or, if that does not exist, it must be lightly broken in (*vide* Sc. O. papers IX).

The soil on Coffee Estates is constantly getting large doses of humus from the mulch formed by the fallen leaves of the shade trees and the coffee plants, and also large doses of poonac are usually applied, and it is quite possible that in many places it is becoming acid. This needs further investigation, but undoubtedly applications of lime to Mysore soils which are very deficient in this constituent, containing less than 1%, will produce good results.

Each tote should be divided into sections, and one section should be limed each year, so as to get round the whole tote if possible once each 5 or 6 years. No nitrogenous manure of course must be applied with the lime, or the nitrogen will be lost; a period of 6 or 8 months, or the monsoon season, should be allowed to elapse between the two applications; I would suggest, however, that in the year when lime is applied no other fertilisers at all should be given.

On some totes I was very pleased to find that pulp was being made into a compost and used as a manure. This should prove a very valuable fertiliser and should always be returned to the soil. The plan adopted was to dig big pits and fill them with pulp mixed with ashes and the sweepings from the cooly lines, with a little lime (to neutralise the acidity of the pulp) and an occasional layer of earth. Probably such a compost when it has rotted down would analyse very well indeed. It would be low in Phosphate content if anything, and I would advise that an occasional layer of crushed bone be added to the heap. Such composts should be made on all totes, and they would supply a considerable amount of valuable manure.

Pruning.

In some places more care should be taken about pruning, especially the cutting of big branches. When a tree has been topped, or stumped, it is often found that a hole is formed which is full of water in the wet weather, and rotting material always. In this fungi work and a permanent open wound exists which gradually rots down the heart of the tree and impregnates the sap with poisonous material, making it unhealthy. These conditions should be avoided by careful pruning. When a branch is removed it should be cut flush with the stem from which it was growing so as to leave no projecting stump. Such a stump always dies and falls out, leaving a hole which makes a permanent wound. If cut flush and smooth the bark heals over the cut and closes up the wound. Big stems should be cut on the slope and smoothed off so that the bark can grow over the cut. Bark cannot grow over a cut made at right angles, but closes up from the sides.

I would advise in the case of big cuts such as are made when a tree is topped, or stumped down, that an antiseptic dressing, such as coal tar, or best of all resin oil, should be painted over the wound; this would keep out water and fungi till the bark can grow and heal the cut naturally, and the health of the tree would be conserved.

Scale Insects.

I visited the District at a time when Scale Insects are not apparent, but it appears to be fairly free from these pests. The fate of the Nilgiris and Pulneys, however, should be borne in mind and a careful watch kept for the possible appearance of *Lecanium viride*.

The Green Mealy Scale (*Pulvinaria psidii*) is to be seen on some of the shade trees, and in a few places the Coffee Mealy Bug (*Dactylopius citri*) was found on the roots of young coffee. This scale is, I understand, a severe pest in Coorg, and should be promptly dealt with wherever it appears. It was found on the roots of a leguminous plant known as Wild Dhâl (the botanical name has not yet been determined) wherever the plant occurred, and spreads from it to the coffee. This is unfortunate, as the plant forms a good green dressing, but so long as it attracts these scales it must be condemned and eradicated. A small ant is found working round the infected roots, and this encourages and fosters the scales, tending them in a similar way to which we tend cattle.

When young coffee is infected it should be weeded clean, any weeds attacked burned, and an application of lime given to the soil, while a wash made from the following recipe may be applied with a small-rosed watering can round the roots of the coffee:—Boil 5 lbs. of Sulphur and 5 lbs. of Lime in water and make up to 40 gallons with water.

Another Scale, which has not yet been identified, was found attacking *Cedrela Toona*, and several species of *Ficus* (Atti, Gurrige and Bassari). This is a large grey limpet-like scale, with large pink eggs, which coats the branches in dense masses and finally kills the tree. A soot fungus grows in the sugary excreta from the scale, and the coffee underneath the tree attacked becomes so completely smothered by the soot-like fungus that it is killed. All branches infected should be lopped off and carried out and burned as soon as the attack is detected.

Rubber.

The greater part of the District which I visited appears not to be suitable for Pará Rubber, but on some totes some very satisfactory plantations of this variety were seen, though the growth is rather slow.

Ceará appears to grow very readily, but there is a difficulty about tapping it and preparing the rubber. This difficulty can, I think, be easily overcome if Ammonia water is used to prevent coagulation in the cuts, and probably only systematic experiments are needed to make it a success.

My sincere thanks are due to the planters in the various Districts which I visited, both for their kind hospitality and for the help afforded me in transport facilities during my tour.

(Signed) RUDOLPH D. ANSTEAD,
Scientific Officer.

Besides the specimens of planting products at the Mysore Industrial and Agricultural Exhibition, 1909, there were, of course, hundreds of other exhibits that had a very special interest for Planters. The splendid displays of varieties of fibres, grains, oilseeds, &c., were notable examples; and lovers of horses and sport would have been attracted by the saddlery and leather goods sent in by such firms as Messrs. Oakes & Co., Ltd., of Madras, and Messrs. Mungli Prasad & Co., of Cawnpore, which were greatly admired by visitors. Many other goods might be mentioned, but all that is desired here is to point out that as a visitor, no less than as an exhibitor, the Planter would be repaid by giving his support to the exhibitions that have become an annual feature in the Dasara Programme at Mysore. Under the capable management of Mr. G. H. Krumbiegel, himself a scientific agriculturalist of note, the "planting side" of these exhibitions is certain to receive proper care.

The Government of Madras have authorized Mr. F. W. F. Fletcher, of Rookwood Estate, Nellakottā, South-East Wynaad, to witness the execution of labour contracts.

DISTRICT PLANTERS' ASSOCIATIONS.

South Mysore Planters' Association.

Special General Meeting held at Saklaspur, 3rd October, 1909.

Present.—Messrs. W. L. CRAWFORD (*President*), J. AIRD, GRAHAM ANDERSON, C.I.E., THISELTON ANDERSON, G. GOWANS, the Hon'ble Mr. J. G. HAMILTON, J. A. HARRIS, C. LAKE, A. R. PARK, C. K. PITTOCK, E. M. PLAYFAIR and S. SLADDEN.

Minutes of General Meeting of 25th July, 1909, were confirmed.

Notice convening the Meeting was read.

Act I of 1903.—The President read the Report of the Sub-Committee appointed to consider Act I of 1903.

The Sub-Committee met at Chickanhully on Thursday, 2nd September, 1909. *Present*: Messrs. A. R. Park, J. Aird and J. A. Harris; and the following is their Report:—

We consider that Act XIII of 1859 is inadequate to enable us to cope with the circumstances of labor at present prevailing in Mysore, and we are convinced that in view of increasing competition in the near future, involving greater labor troubles, its inefficiency will become more and more apparent. We, therefore, advocate the introduction into Mysore of a new Labor Act, and we consider that under certain conditions and with certain modifications, Act I of 1903 is capable of being made suitable to our requirements.

CONDITIONS.

With regard to the *Conditions*, we cannot emphasise too strongly the importance we attach to *section 44*, and we regard it as essential that before any steps are taken with a view to the introduction of the Act it be definitely ascertained what "conditions and restrictions the Local Government" will attach to the execution in British Territory of processes issued by the Mysore Courts. For, unless reasonable facilities for their execution are granted, the chief benefits that we anticipate from the Act will be annulled. We, therefore, suggest that the Mysore Government be asked to ascertain at an early date what restrictions, and conditions will be prescribed, and what the procedure for the execution of these processes will be.

MODIFICATIONS.

Section 3(f). We agree with the Nilgiri Association that "*sub-maistries*" should be included, and we understand that the Madras Government are willing to allow this.

Section 4. As it stands is objectionable, but the amendment agreed to by the Madras Government rectifies it. It is to the effect that the option of signing a Labor Contract before a Magistrate shall rest with the laborer. Should he not exercise the option it may be signed in the presence of two witnesses, one of whom the laborer may choose.

Section 9. We presume that "Labor Contract" refers only to contracts between employees and laborers, and we base our presumption on the definition of the term in section 3(c) and the subsequent use of it in other sections, and if we are correct in our surmise we do not regard this section as objectionable.

We think, however, that legal opinion should be taken on this point, as we believe a contrary view has been taken; and should it be proved that the term includes contracts between planter and maistry, legal opinion should also be asked as to whether it is sufficiently clear that the maistry shall repay the sum due at the time of proving to the Magistrate his right to determine his contract.

Section 13. We consider that the words "and of their dependants" should be eliminated or specifically defined.

Section 14. Is objectionable and unnecessary, but we think there is probably little hope of getting it remedied, and that as the labourer would

have to prove his unfitness to work *in Court*, in practice it probably would not be irksome. We understand that this is the experience of Nilgiris and Wynaad, and we, therefore, recommend that the section stand as it is, with the addition of the words "residing on Estate."

Section 15. We think that what is expected of the planter should be more clearly defined.

Section 17. Any injustice under this section would be guarded against by our proposal given above under "Conditions."

Section 23. We suggest a slight alteration in the last sentence; after "such portion of the advance as" read "shall be shewn to be due by him to the planter."

Section 24 (c). We suggest the insertion of the word "satisfactorily" after "fails."

Section 29. The Nilgiri and Wynaad Associations endeavoured to induce Government to make it *incumbent* on a maistry to warrant his defaulting coolies, but they have refused so to do. Instead, however, they have offered to amend section 29 so that the planter may warrant them, but subsequently they have saddled this concession with the preposterous proposal that if the maistry does not pay his coolies they may recover from the planter. The U. P. A. S. I. rightly rejected this, and said that they would prefer that the section should stand as it is. We fully endorse their action.

Sections 33 & 35. The Government of Madras have emphatically refused to give us "specific performance" in the case of the maistry who has come up to time himself, but failed to bring the number of coolies contracted for with him—the argument being that it is opposed to the principles of criminal law to allow a possibly honest man to be responsible for the offences committed by others. Moreover, the planter has his remedy under section 23, whereby the maistry may be ordered to repay the advance. But in the Act as it now stands "specific performance" by the maistry convicted under section 24 is provided for in sections 33 and 35. Government have, however, suggested altering these two sections, and making the provisions relating to a maistry separate from those relating to a cooly, in fact doing away with specific performance on the part of the maistry,—under the new proposal the maistry instead of being ordered to return to the Estate and *complete his contract*—may be ordered to return to the Estate and remain there till the expiry of his contract. A very unsatisfactory alteration indeed we consider from the planter's point of view, and we maintain that we should refuse these amendments and request that the sections shall stand as at present; except that an alteration might be made with respect to the maistry, who failing to account for monies advanced to him, is convicted under section 24, as he presumably would receive full punishment for his offence, and could not fulfil his contract, having failed to advance laborers.

Section 39. The accused should be tried before the Magistrate who issued the warrant.

Section 44. We have referred to this under "Conditions."

In conclusion, we consider that, if the conditions we have mentioned are complied with, and the Act is modified somewhat on the lines we have suggested, it may safely be introduced into Mysore, and that it would prove to be of very great benefit.

The President observed that the one essential of this Act, so far as Mysore was concerned, was reciprocity in the execution of warrants, and that the Mysore Courts should, in the event of the Act being introduced, be granted the same power to have processes served in British India as similar Courts in British India have for their warrants being served in Mysore.

After a somewhat prolonged discussion, the following Resolutions were carried:—

- (i) "That this Association, while believing that the introduction of a Labor Act based on the principles of Act I of 1903 is necessary is of opinion that the Mysore Government should be invited to as

certain at the earliest possible date what restrictions and conditions will be prescribed with regard to section 44 of Act I of 1903, and what the procedure under this would be; and that until assurances be received that reasonable facilities for the execution in British India of processes issued by the Mysore Courts will be afforded, this Association postpone asking for the introduction of the Act.

(ii) "That legal opinion be taken as to who would try the Planter for alleged offences under Act I of 1903 and to whom appeal would lie.

(iii) "That Messrs. Aird, Harris and Pittock, with power to add to their number, be asked to attend the North Mysore Planters' Association Meeting to be held in Chickmagalur on the 9th instant, to endeavour to arrive at a common understanding regarding a Labour Act, and that they be given full power to act at the meeting, on behalf of this Association."

A very cordial vote of thanks was passed to Messrs. J. A. Harris, A. R. Park and J. Aird for their very able and valuable Report on Act I of 1903.

Mr. Brock's suggested Labour Registration Scheme.—The Meeting thought it was undesirable to go further with the matter for the present, and Mr. J. Aird proposed and Mr. W. L. Crawford seconded the following Resolution, which was carried:—

"That a vote of thanks be accorded to Mr. Brock for his very able scheme for Registration, but in view of the fact that Act I of 1903 has not yet been generally adopted, the time has not yet arrived to approach Government for further legislation in connection with Labour."

Planters' Benevolent Fndd.—Rupees 140 towards this object was subscribed in the room.

His Excellency the Viceroy's visit to Mysore.—It was proposed and carried that Mr. W. L. Crawford be asked in conjunction with a representative from the North Mysore Planters' Association to meet His Excellency the Viceroy on behalf of this Association and present an Address.

The Hon'ble Mr. J. G. Hamilton brought forward a suggestion that some of the General and Committee Meetings of the South Mysore Planters' Association should be held at other centres than Saklasapur. The Association decided to hold the next Meeting at a centre to be fixed upon later, in the Mudigere Taluk.

W. L. CRAWFORD,

4th October, 1909.

President.

South Travancore Planters' Association.

Minutes of Meeting held at Quilon, on October 9th, 1909.

Present.—Messrs. D. G. CAMERON (*Chairman*), E. LORD, J. C. PARKER, W. INGRAM, J. B. COOK, C. BRANDER, P. W. KIER, C. LEEKE, L. G. KNIGHT (*Honorary Secretary*).

By Proxy.—Messrs. R. ROSS and J. STEWART.

Poonalur Bridge.—With regard to Minutes of last Meeting, the Honorary Secretary was asked if any reply had been received from His Highness' Government as to the repairs to this Bridge.

The answer was, No.

The Minutes of the last Meeting were then read and passed.

Mr. Parker, this Association's delegate to Bangalore, then gave the Meeting a short Report, on the Proceedings at the Annual Meeting of the

U. P. A. S. I., especially mentioning among others the following reasons :—Why certain delegates to the Bangalore Meeting were urging all Associations to accept the Labour Act.

The fact that whilst one District Association accepted the Act, and others opposed it, the Act No. 1 of 1903 was not being given a fair trial.

That at some future date Planters might find it impossible to get Government to give them legislation, if they refused the present Act as it stood.

But it was the universal opinion of the Meeting that in the position this district is placed, legislation, as now offered to us, would not help us in the least.

It was pointed out that it was a distinct disadvantage to Estates, to be within easy walking distance of the coolies' homes; as compared to foreign competition, such as Ceylon and the Straits, who, having once got their coolies, had every chance of keeping them. Also that it was too easy for a cooly, who had contracted a debt here, to go to the nearest foreign recruiter, get a fresh advance, and clear out of the country.

Mr. Kier spoke strongly in opposition to the introduction of the Labour Act.

Resolved—“That the members of this Association are unanimously opposed to the introduction into Travancore of Labour Legislation by Madras Act No. 1 of 1903.”

Mr. Parker then referred to Mr. Brock's scheme, and after some discussion in Committee, this Association

Resolved—“That while admitting the possible advantages of Mr. Brock's Labour Registration Scheme, and the large amount of thought and care that had been given to it, that this Association considers it impracticable and it was also further resolved, that the appointment of a Commission, to enquire into the present methods of recruiting labour, was unnecessary.”

Resolved—“That this Association wishes to associate itself with the Planters' Benevolent Fund, that the Honorary Secretary be instructed to write to all members asking if they will subscribe.”

READ Mr. Ormerod's letter of September 18th with reference to an afflicted Planter, on behalf of whom a collection was made in the room, though it was considered that this Association was not specially called on, and the Honorary Secretary was instructed to send out a list to absent members.

Referring to the Scientific Officer, Mr. Parker said he had promised, on behalf of this Association, an annual subscription of Rs.150, and his action was confirmed by this Meeting; he further said that we might expect a visit from Mr. Anstead about January.

Some discussion took place on the large subscriptions promised by some Associations to obtain first call on the Scientific Officer.

A long discussion took place on Planters' rights to buy timber standing on their Estates, but no Resolution was proposed.

Sri Moolam Assembly.—Mr. D. G. Cameron, having already been elected as our delegate, the following were decided on as subjects to be brought up by him :—

“The state of the Poonalur Bridge to which nothing was being done; and whether Government claims the right to sell one Estate for the arrears of tax due on another Estate; both Estates being registered in the name of one owner.”

A vote of thanks to the Chairman, Mr. D. G. Cameron, and to our Bangalore Delegate, Mr. J. C. Parker, closed the Meeting.

(Signed) L. G. KNIGHT,

Honorary Secretary.

Anamalai Planters' Association.

Abstract of the Proceedings of the General Committee of the A. P. A., at a Meeting held at Paralai Bungalow, on Monday, the 18th October, 1909.

Present.—Messrs. C. R. T. CONGREVE, G. A. MARSH, E. W. SIMCOCK and C. H. BROCK (*Honorary Secretary*).

Mr. G. A. Marsh was voted to the Chair.

1. *Proceedings*.—The Proceedings of the last Meeting of the General Committee held on the 20th September were confirmed after previous circulation.

READ letter from Mr. H. W. DeSalis, dated 9th October, 1909, and the Honorary Secretary's reply dated 10th October, 1909, which was approved.

2. *Revision of Rules*.—READ and revised the Draft Rules, and the Honorary Secretary was instructed to circulate these to all members with a request that, if unable to be present at the General Meeting next month, such members forward their opinion as to the Revised Rules as soon as possible.

3. *Act I of 1903*.—READ Mr. R. Gompertz's speech at the Meeting of the Shevaroy Planters' Association, on 13th September, 1909. The Committee recorded this speech with interest.

4. *Extraordinary General Meeting*.—The Committee instructed the Honorary Secretary to call an Extraordinary General Meeting of the Association for the 8th November next.

5. *Correspondence*.—

(a) READ and approved of the Honorary Secretary's letter to the Board of Revenue, dated 22nd September, 1909, asking for a special grant to be made for the Establishment of a Hospital in the District.

(b) READ letter from the Collector, stating that he trusted that there now remains no point on which further correspondence will be necessary with regard to the issue of Leases, and that he was assured that Government will deal with the matter as speedily as its importance permits of.

The Committee recorded this assurance with satisfaction.

(c) *Liquor Shop*.—READ letter to the Head Assistant Collector, dated 23rd September, 1909, and letters from Mr. O. A. Bannatine, dated 9th October, 1909, Messrs T. Stanes & Co., dated 27th September, 1909, and the Honorary Secretary's reply dated 7th October, 1909. The correspondence was recorded and the subject left over to be dealt with at the next General Meeting.

(d) *Renard Road Trains*.—READ and recorded letter from Messrs. Best & Co., dated 29th September, 1909.

(e) *Telegrams*.—READ and recorded letter to the Director-General of Telegraphs, dated 23rd September, 1909.

(f) *Birth and Death Returns*.—READ and recorded letter from the Head Assistant Collector, dated 23rd September, 1909, and the Honorary Secretary's reply dated 7th October, 1909.

(g) *Scientific Officer*.—READ and recorded letter from Mr. R. D. Anstead, dated 4th October, 1909, identifying the scale insect found on pepper as *Lecanium Marsupiale*.

(h) *Prevention of Coffee Thefts*.—READ letter to the District Superintendent of Police, dated 7th October, 1909, and his reply dated 13th October, 1909. The Honorary Secretary was instructed to obtain and forward the information asked for.

6. *U. P. A. S. I.*—READ and recorded the following Circulars:—

(a) Curing and Freights, Nos. 71, 76, 78 and 82.

(b) The Theni Bridge, No. 72.

(c) The Arsikere-Mangalore Railway, No. 77.

(d) Book of Proceedings, 1909, No. 79.

(e) Proposed Coffee Cess, letter dated 5th October, 1909.

(f) Warrants, No. 78. The Honorary Secretary was instructed to obtain the information asked for.

(g) Pepper-Vine Disease, No. 80.

(h) Delayed Mails, No. 81.

G. A. MARSH, *Chairman*,
C. H. BROCK, *Honorary Secretary*.

Kanan Devan Planters' Association.

*Minutes of General Meeting held at Munnar Club on Saturday,
October 23rd, 1909.*

Present:—MESSRS. J. C. ABBOTT (*Chairman*), A. J. WRIGHT, W. J. DIXON, W. L. RANKING, R. F. RUSSELL, J. C. SWAYNE, J. S. HAWKINS, W. O. MILNE, E. HUGHES, J. C. STEWART, A. J. IMRAY, A. D. MCBAIN, A. W. JOHN (by proxy), J. M. BRIDGMAN (*Honorary Secretary*).

The Minutes of last Meeting were taken as read.

Notice convening the Meeting was read and the following business was discussed

1. *Bodi Mettu Ghat Road*.—Mr. Wright, who has lately visited the road, read his Report on it, and was thanked by the Meeting for the trouble he had taken in the matter. The Chairman pointed out that it might be necessary to call for a further cess towards the cutting of the new section of the road later on.

2. *Labour Act*.—Act I of 1903 was brought up and fully discussed and Mr. A. J. Wright proposed the following Resolution which was seconded by Mr. J. C. Swayne and carried unanimously:—

“That this Association after giving careful consideration to the arguments brought forward at the U. P. A. S. I. Meeting of the current year, wishes the Council of the U. P. A. S. I. to understand that it is very strongly opposed to the introduction into this District of any Act similar to Act I of 1903.”

Mr. W. J. Dixon supplemented the above by the following rider:—

“That this Association views with grave concern the Resolution passed at the U. P. A. S. I. Meeting above referred to, which shewed a disregard for the interests of individual District Associations, rendering it possible for the votes of the District (the feeling in which is by no means unanimous on the subject) to force legislation upon any District where the feeling against it is unanimous. Any such action taken by the Councillors of the U. P. A. S. I. will be taken as distinctly inimical to the interests of this Association.”

The above was seconded by Mr. W. L. Ranking and carried unanimously.

The Honorary Secretary was instructed to write and thank Mr. Gompertz for copies of his able speech relating to Act I of 1903, with which this Association fully agreed.

A vote of thanks was also passed to Mr. Brock, of the Anamallais, for the trouble he had taken over his labour scheme, but it was agreed that it was not suitable to the Labour conditions in this District. With regard again to Act I it was agreeable to hear that our views were fully supported by the South Travancore and North Mysore Associations.

3. *Labour Rules*.—It was pointed out that Rule No. 7 was not quite clear in the K. D. P. A. Rules and should be referred to the Labour Committee as also the point brought forward by Mr. J. S. Hawkins regarding bolters.

4. *Southern Indian Benevolent Fund*.—This scheme was fully supported by the Meeting and the Honorary Secretary stated that he had already received and forwarded subscriptions from some members.

5. *Bangalore Delegate Report*.—Mr. A. F. Martin's Report was read and a vote of thanks was passed to that gentleman for his able services at Bangalore.

6. *British Post Offices in India*.—The Honorary Secretary was instructed to write again to the Collector at Madura calling attention to his letters of June 23rd and the 7th October in regard to transmission of mails, parcels, etc., by night. Mr. J. A. Richardson's letter to the Planting Member of Council was read, and the Honorary Secretary was asked to thank Mr.

Richardson for his letter and in this connexion the following Resolution was passed:—

“That this Association heartily supports Mr. Richardson's views and deploras the action of the Postmaster-General in stopping all insurance business to and from the Munnar Post Office and begs to point out that it is a matter of most serious inconvenience, and is dislocating the whole of the business arrangements of the District, and further this Association strongly deprecates the growing tendency on the part of Government officials to neglect their duty to the interests of this District.”

The Honorary Secretary was instructed to send a copy of the above Resolution to the Chief Secretary to the Government of Madras and a copy to the Secretary to the U. P. A. S. I.

7. *Theni Bridge*.—With regard to this, Mr. Hughes proposed:—

“That this Association begs to draw the attention of Government to the delay of the sanction of the commencement of the work with a view to the importance of the Bridge to the District and trusts that the necessary orders may be passed at the earliest opportunity.”

This was seconded by Mr. J. C. Swayne and carried unanimously.

This concluded the day's business and the Meeting terminated with a vote of thanks to the Chair.

(Sd.) J. M. BRIDGMAN,
Honorary Secretary, K. D. P. A.

Coorg Planters' Association.

Proceedings of the Quarterly General Meeting of the Coorg Planters' Association held in Mercara, on the 25th October, 1909.

Present:—Messrs. BREITHAUP, SHAW, A. H. JACKSON, MAHON, BRACKEN, H. M. MANN, P. G. TIPPING, GARRETT, TWEEDIE, GRAHAM, BALL, MACLEAN, IRWIN, HEXT, TALBOT COX, A. J. WRIGHT, W. R. WRIGHT, W. C. PETRIE-HAY, H. C. WOOD, R. D. TIPPING (*Honorary Secretary*), MURRAY-AYNSLEY (*President*), L. T. HARRIS (*Commissioner of Coorg*), GUSTAV HALIER (*Assistant Director of Agriculture*), C. MCCARTHY (*Conservator of Forests*) and Captain HENDERSON.

Visitors:—Messrs. L. King, Church and Dickenson.

Mr. Murray-Aynsley in the Chair.

The Minutes of the last Quarterly Meeting were confirmed.

Messrs. W. C. Petrie-Hay, James Hume and C. E. M. Browne were elected as members.

Report of the Delegate to Bangalore read as follows:—

GENTLEMEN,

The Meeting to-day is, amongst other things, for the purpose of receiving the Report of your delegate, to the United Planters Meeting held at Bangalore recently; every member has been supplied with a copy of the Proceedings of the United Planters' Association Meeting (an innovation, which I trust meets with your approval), and as you have *no doubt* perused the contents, it is unnecessary for me to remark at length on the various questions, which were dealt with at that Meeting.

Scientific Officer's Fund.—I must in the first place congratulate our members on their ready response to the call, which was made on them, and may here say that almost every member of the Association has paid the cess. In this connection every planter will recognise the ready, and liberal way in which the several Governments concerned have responded to the request for

assistance, in this new Department, and our thanks are due to the Coorg authorities, for this recognition of the *urgent* needs of the Planting Community. Mr. R. D. Anstead hopes to be able to visit Coorg in November, by which time he will have had opportunities of studying some of the pests, which affect Coffee. I propose to ask the Committee of our Association to draw up a Programme for North and South Coorg, respectively, so that every subscriber may have the advantages of Mr. Anstead's services.

It has been proposed that he should give a lecture in Pollibetta, and another in Mercara, and this, I have no doubt Mr. Anstead will be very pleased to do. It will also afford members an opportunity of getting to know him.

Labour Acts.—This was a subject for warm discussion, and as you read from day to day, opinions are divided on the subject. The reason for this is, in most cases, that the labour conditions in South India are so varied, that what suits *one* District is unsuitable for *another*. You have all had copies of the two Acts in question, sent to you, and will no doubt be able to form an opinion as the suitability of Act I, 1903, to *our* Labour conditions.

The next question is one, which should closely interest every planter.

The Planters' Benevolent Fund.—It is admitted that this is a Fund, which should have been initiated years ago, but now that it *has* come, I trust it will meet with ready support from one, and all. The Rules are in your hands, and it only remains for us to suggest any alterations, which, if of importance, can be brought up at the next U. P. A. Meeting. On hearing of this Fund Messrs. Volkart Bros. wrote, forwarding Rs.40, and intimating their wish to do the same for the next 4 years, or a subscription of Rs.200 in all. On behalf of our Association I have thanked them heartily.

Roads and Communications.—There has been a considerable correspondence on the subject of the Renard Transport Train, but as you know, most of what has been going on, I only propose to give you what may be taken as the latest on the subject so far as Coorg is concerned, which is to the effect, that there is a probability of the Madras and Southern Mahratta Railway Company running a trial service through Coorg to Tellicherry, next year.

Your delegate was instructed to bring up the subject of the *Reduction of Curing Charges, and Freights on Coffee*, and a Resolution on the subject was passed. Since then there has been some correspondence on the subject and curers with *one exception*, have intimated their inability to reduce Curing Charges, and they do not think that Freights can be reduced either.

I will read you two letters on the subject which practically cover all the correspondence. Lately there has been an offer from a Mr. Britto, in Mangalore, to open Co-operative Curing Works for Planters, which I will read.

We are asked to consider Mr. Brock's very elaborate and well worked out scheme for the *Regulation of Labour Recruiting and Emigration*.

It is a question which I fear has not interested us so far, but no doubt we shall lose some of our coolies, as the demand for labour in Rubber in Tea Districts increases. In the meantime, perhaps, we shall be wise to leave this question to be discussed by those whom it more nearly affects, and who probably understand it better.

I may mention that the new offices of the United Planters' Association are situated on the South Parade. Messrs. Baccola, the Confectioners, on the one side, and Messrs. Foster & Co., the Chemists, on the other—an obviously convenient situation.

Labour Acts.—Members having already read Act XIII of 1859 and Act I of 1903.

The following Resolution was unanimously adapted:—

"That this Association having carefully considered Act I of 1903, does not find it at present suited to the local conditions of this Province and, therefore, declines to ask for any alterations in the Existing Labour Law."

Reduction of Curing Charges and Freights on Coffee.—It was resolved to go further into this question, and the Committee has been asked to look into the matter, with a view to deciding what can be done by co-operation.

Planters' Benevolent Fund.—It was decided that subscriptions shall be collected in North and South Coorg by circulating lists, that the Rules shall be considered by the Committee with a view to any revisions that may be required.

Roads and Communications.—The Meeting recorded with thanks the efforts that had been made by the Chief Commissioner of Coorg and our local authorities, to get a Road Train service established through Coorg.

Mr. Ball remarked that there had been some deterioration as regards the general upkeep of roads in Coorg, and Mr. Shaw corroborated this, more especially with regard to the section of the Coorg-Tellicherry Road, between Perambady and the frontier. As this is the chief outlet for coffee and other important produce, it is to be hoped that the road will be very soon put in good order.

Local Fund Board.—Owing to the absence of Mr. G. K. Martin from Coorg, North Coorg was without a Planting representative, and Mr. Jackson, the member for South Coorg, suggested that Mr. Martin be asked if he still wished to act as member for North Coorg, pointing out that he (Mr. Jackson) was not in touch with the necessities of North Coorg and therefore could not represent them on the Board.

Scientific Officer.—It was decided to ask the Committee to make the necessary arrangements for his tour in Coorg.

A vote of thanks to the Honorary Secretary as delegate to the U. P. A. S. I. was heartily accorded. The Meeting then closed with a vote of thanks to the Chair.

(Signed) R. D. TIPPING,

Honorary Secretary.

The Times of Ceylon (October 27th, 1909), states that the *Manihot dichotoma* and the *Manihot piauhyensis* have been grown at the Gangaruwa Experimental Station. The latter tree has not been successful, but the former has grown excellently, and it is interesting to know that the *Dichotoma* trees, now about two-and-a-half years' old, are being experimentally tapped at the station at present. The results will be awaited with considerable interest, first in order to see whether there is any indication that the remarkable figures reported from South America are likely to be realised in Ceylon. Some idea of what this means may be gained when it is said that the yield of the *Dichotoma* in Brazil has been stated to be one ton of rubber to the acre! Secondly, it is to be hoped that the experiments will throw further much-needed light on the method of tapping Ceará. In Brazil in the case of these new species, it is said that very little latex is to be obtained by ordinary cutting of the bark (which method has also in many instances proved a failure in Ceylon with ordinary Ceará trees). Presumably the processes found successful in South America, such as scratching just above the root, will be tried at Gangaruwa. The new species are supposed to be adaptable to the same kind of climate as the *Manihot glaziovii*.

Coffee continues to form one of the largest exports from Nyasaland. Rubber has attracted much attention of late. Tea is showing among exports to Europe, some 30,000 lbs. have been sent to London during the present year and sold at from 4½d. to 7½d. per lb.

The *Ceylon Observer* remarks that the Madras Presidency "wants its Plant Pests Boards, similar to those appointed in Ceylon."

INDIAN TEA ASSOCIATION, CALCUTTA.

Extract from Abstract of the Proceedings of a Meeting of the General Committee held on 21st September 1909.

Scientific Department, Heeleaka Experimental Station.—Letters of 8th and 9th September from Dr. G. D. Hope were to be recorded. With these there were forwarded respectively a report on the work done at Heeleaka during August and a copy of the Minutes of Meeting of the Advisory Committee held on the 7th September. The Report for August is reprinted for information as an Appendix to these Proceedings.

Representation of the Tea Industry on the Legislative Council of Eastern Bengal and Assam.—In the Proceedings of the Meeting of 24th August it was mentioned that the General Committee were addressing a further representation to the Government of Eastern Bengal and Assam pressing the claim previously made by them that one of the two nominees to the enlarged Provincial Legislative Council to be given to tea should be appointed by the Association. Reference was also made in these Proceedings to a criticism in regard to the method of voting which was being submitted.

In a letter of 10th September, the Government of Eastern Bengal and Assam replied to the opinion expressed by the Committee. The Lieutenant-Governor did not, it was stated, see his way to depart from the fundamental principle that the members of the Provincial Council must all be residents of the Province and be elected by residents of the Province. And in regard to the criticism on the system of voting, the idea of which was to ensure that Calcutta should have some voice in the election of representatives of the industry, His Honour the Lieutenant-Governor considered that it would be possible for Proprietors and Agents to exercise some control over the election through their Managers without the adoption of the proposal made by the Committee that each Tea Estate should be allowed a vote. The principle of the system proposed originally by Government was that the election should be made not by individual Estates, but by the District Branches and Associations, and it was mentioned in the letter now under consideration that this procedure had been generally approved and would be recommended to the Government of India for adoption. The letter was to be recorded.

APPENDIX.

Report of work done at Heeleaka during August.

Garden-work. Manuring.—The third application of Oilcake and Sterilized Animal Meal, respectively, have been given to those plots which are this year being treated with these manures in divided application.

It is interesting to note in this connection that the yields from the divided-application plots last year were, at the end of August, practically the same as those from the plots on which the same manure had been put at the beginning of the season, although at that date only two-thirds of the total amount had been given to the divided-application plots. This year the same plots are well behind the plots which received the total amount at the beginning of the year, but will probably pick up and pass the single application plots before the end of the year.

The third application of Nitrate of Potash has been given to plot 20a of the manurial series, the plot which is to receive five doses of $\frac{1}{4}$ cwt. per acre of Nitrate of Potash during the season.

Hoeing.—The third round of light hoe which has been begun late this season began on the 19th and is still in progress. It will shortly be completed.

Plucking.—There have been only two rounds of plucking this month compared with four rounds last August. In consequence the actual amount of leaf plucked has been less than that plucked during last August. The total amount of leaf however plucked this season is still in excess of that plucked to the corresponding date last year, as the following figures will show:—

	1908.	1909.
Total amount of leaf to end of August ...	569 mds.	584 mds.
Total amount of leaf plucked during August ...	227 "	183 "

Clearance.—The Clearance has been forked during August,

Laboratory work.—Mr. Biswas has continued chemical investigations on fresh tea leaf during my absence in the Dibrugarh Districts and in Calcutta.

Office Babu.—The Office Babu has visited a neighbouring garden for the purpose of classifying the bushes of several experimental plots.

Extract from Abstract of the Proceedings of a Meeting of the General Committee held on October 5th, 1909.

Correspondence with the Indian Tea Association (London).—Letters of 10th and 17th September from the Secretary, Indian Tea Association (London), which had been previously circulated, were now brought up for final consideration and disposal.

(a) *Port of London Bill.*—At a Meeting of the Standing Joint Committee of India and Ceylon in London the following Resolution had been passed on the subject of the charges for tea entering the Port of London:—

"It having been brought to our notice that the draft (to be submitted to the Port of London Authority) of does on goods entering the Port of London embodies a rate of 2d. per cwt. or 3s. 4d. per ton on tea, we, representing the Indian Tea Association (London) and the Ceylon Association in London, strongly protest against a higher rate than the maximum allowed in the Liverpool, Glasgow and other schedules, as this would be most detrimental to the tea trade of the Port of London. The Liverpool and Glasgow schedules are based upon a 2s. per ton rate, and the proposed London rate is 3s. 4d. per ton."

This subject had also been raised by Mr. H. C. Begg, who forwarded a letter to him of 29th September from Sir Frederick Dumayne, calling attention to the high rate proposed for tea in London. In this connection he pointed out that in Calcutta, where the conditions were more difficult, the charge for river dues was only 4 annas per ton. Mr. Begg had been informed of the action taken in London in regard to the matter.

Tea Statistics.—It was mentioned in the Proceedings of 7th September that the attention of the Department of Commercial Intelligence was being called to certain points in connection with the information regarding tea given in the "Review of the Trade of India in 1908-09" and the "Note on the Production of Tea in 1908" published by the Department. The points briefly repeated were as follows:—(1) In both publications the figures of total production originally given for 1907 were repeated, although in the Report of the Director of Agriculture of Eastern Bengal and Assam on Tea Culture in the Province for 1908, the figure originally given for 1907 was corrected and considerably reduced; (2) Different figures were given in the two publications for imports of tea into India, the explanation apparently being that in the one case only imports by sea were stated, while in the other imports by land were included; (3) References in the Review to the exports from Ceylon in 1908 were not borne out by the statistics given; and (4) A comment was made on the Russian trade which was liable to misconstruction.

A letter of 27th September from the Director-General of Commercial Intelligence on the matter was now before the Committee. With regard to point (1) mentioned above it was explained that the change in the total figure for 1907 first came to the knowledge of the Department on the publication of the Report of the Director of Agriculture of the Province for 1908, which reached the Department after the Note had been issued. And it was mentioned that reference was made in the Note to the fact that the figures for Eastern Bengal and Assam were regarded with misgiving. It was also stated that an advance proof copy of the tables for the Note was submitted to the Association for their remarks, and that in replying the Association had not been in a position to make any correction. The Director-General explained in addition that an advance copy of the Report of the Director of Agriculture referred to had been sent to his office, but that it did not contain a footnote in which the correction was subsequently made. With reference to (2) it was remarked

that the reason suggested for the difference between the two sets of figures for imports was correct, the figures given in the Review relating only to sea-borne trade. To avoid misinterpretation, however, a word of reminder could be included in future issues. The explanation in regard to (3) was that an inadvertent use of the lural had apparently been made. The point in regard to (4) to which attention had been drawn was that the statement was made in the Review that the total exports to Russia were over 3 million lbs. more than in the previous year, and that the Russian development was one of the features of the year. The Association pointed out that this referred only to direct exports to Russia and that the whole amount of Indian tea taken by Russia in 1908-09 was estimated to be about 2½ million lbs. less than in 1907-08. In this connection the Director-General remarked that the table to which reference was made related exclusively to direct trade and that he could not think it would be necessary to remind readers in set terms of so evident a fact or expedient to conjecture any such supplementary estimate of indirect trade as that mentioned by the Association, seeing that no authority for such an estimate was available at the time when the Review was written.

The letter from the Director-General also referred to certain further criticisms on the Note on the production of Tea which had appeared in a Calcutta newspaper. With regard to the fact that all the statistics did not relate to the same period of time—some of them being given for the calendar, others for the official, year—it was remarked that the criticism in this matter was not endorsed by the Association, who doubtless recognised that since the exportation of the crop of one year continued well into the succeeding year the figures of production in the calendar year had a clearer statistical relation to the export figures for the year ending March of the succeeding year than they would have to those for the year ending with December.

With regard to the reference in the Director-General's reply on point (1) above-mentioned, to the effect that an advance copy of the tables had been sent to the Association and that the Association had not been in a position to make any correction, it was noted that when replying to the Director-General's invitation the Committee had commented on the fact that the total figure for the production of 1908 was stated to have been less than that for 1907. They had mentioned, also, that at the time when the figures for 1907 were issued grave doubts were expressed as to their accuracy. And the remark was made that while the Committee were not prepared to say that the absolute total given for 1908 was incorrect they would have looked for a considerable increase in the total crop for 1908 over that of 1907. The Committee, were surprised that the amended figure for Eastern Bengal and Assam for 1907 had not been communicated to the Department of Commercial Intelligence, because it seemed to them that, as the Report on Tea Culture for 1908 was published only a week after the Note on the production of Tea, the correction would have been available had it been asked for. It was agreed that these points should be mentioned to the Director-General.

Prevention of Cattle Disease in the Surma Valley.—In the Proceedings of last Meeting reference was made to this matter. The Committee had been in communication with firms interested in the Surma Valley with regard to a suggestion that a monthly retaining fee should be paid to the Veterinary Officer of the Branch. Some of the firms were prepared to accept this suggestion, while others stated that they preferred to pay a fee for each visit paid by the Officer. The Chairman of the Branch had been advised to that effect and a letter of 2nd October from Mr. W. H. McCaldron, Veterinary Officer, was now considered. It mentioned that the retaining fee, to commence from the 1st July, 1909, had been fixed at Rs. 15 per quarter for a single garden, Rs. 21 for two gardens, Rs. 27 for three gardens, all gardens over three being taken at Rs. 9 per quarter per garden.

It was decided to communicate again with the firms in the valley giving them the information contained in Mr. McCaldron's letter with a view to ascertaining whether those who had previously not been disposed to accept the scheme for a retaining fee would, in view of the small amount, be inclined now to agree to it.

THE INDIAN TEA ASSOCIATION, LONDON.

The following are Extracts from the Report of the General Committee for the year, 1908-09.

TEA CESS FUNDS.

The total amount of the Cess collected on Tea exported from India during the year ended 31st March, 1908, was Rs.2,96,446. This compares thus with the previous years ended :—

31st March, 1907...	...	...	Rs.3,06,608.
" 1908...	...	...	" 2,78,655.
" 1905...	...	...	" 2,77,956.
" 1904...	...	...	" 2,67,912.

For the year ended 31st March, 1909, the revised estimate of the Tea Cess Committee shows Receipts (including the balance from 1907-08) amounting to Rs.3,96,067 and expenditure Rs.3,43,626, leaving a balance of Rs.52,441 to be carried forward to 1909-10.

As mentioned in the last Report, your Committee asked the Tea Cess Committee to reconsider the question of allotting £2,000 on an advertising campaign for Indian Tea, as a counterblast to China Tea advertisements which are daily appearing in the newspapers, with the result that the Cess Committee, at their Half-yearly Meeting in July last, voted this sum to be spent in conjunction with £2,000 to be allotted by the Ceylon Thirty-Committee. Subsequently, however, the Indian grant was transferred to a fund for advertising Indian Tea in the United Kingdom (see separate paragraph).

The Tea Cess Executive Committee estimates that there will be available for allotment this current year (including the balance from 1908-09) a sum of Rs.3,49,417 and at their Meeting on the 29th January, 1909, the following allotments were made :—

		Rs.	£
(1) Office rent and establishment ...	...	10,000	667
(2) Promoting the sale and increasing the consumption of tea in India ...	...	46,875	3,125
(3) Ditto in America ..	...	1,50,000	10,000
(4) Ditto in Europe ...	...	1,50,000	10,000
		<u>Rs.3,56,875</u>	<u>£23,792</u>

The recommendations of your Committee were as follows :—

(1) Pushing the sale of Tea among the natives of India by means of compressing whole leaf tea in $\frac{1}{4}$ -lb. cakes made in $\frac{1}{4}$ oz. and 1 oz. corrugations—bonus of 9 pies per lb. on an estimate of 1,000,000 ...	...	...	£3,125
(2) Europe, including Berlin Tea House ...	...	...	£5,000
(3) Pushing Indian Tea in the United Kingdom by means of Advertisements, pamphlets, &c. ...	...	...	£2,000
(4) America—if possible in conjunction with Ceylon—from £10,000 to ...	...	...	£12,000
			<u>£22,125</u>

When the result of the Tea Cess Committee's allotment was received, your Committee cabled to Calcutta deprecating so large a sum as £10,000 being spent on tea rooms in the large German towns, and asking the Cess Committee to hold over £5,000 until some scheme could be placed before them as to how it could be expended.

After very careful consideration your Committee recommended.

- (a) That Mr. Harington should only receive £5,000 or half the 1909 grant to Europe. This together with the balance in hand on the 1st April, 1909, gives him a total of nearly £8,000 for carrying on his present work and for an exhibit at the Brussels Exhibition.
- (b) That £3,000 of the grant for Europe should be used in giving a subsidy, either of $\frac{1}{4}$ d. per lb. on $1\frac{1}{2}$ million lbs. or of $\frac{1}{2}$ d. per lb. on 1 million lbs. to all Exporters of Indian tea, from London or Calcutta, into Germany on the increase of their trade over 1908.

A cable was subsequently received from the Cess Executive Committee stating that they consented to the reduction of £5,000, but disapproved of subsidies; they recommended some form of advertising should be undertaken.

Your Committee have since asked the Cess Committee to re-consider their decision, and have appointed a Special Sub-Committee consisting of Mr. Lockhart Smith (late Chairman of the Tea Cess Committee), Mr. Robert Hart and your Secretary to draw up a detailed scheme, subject of course to the Cess Committee's sanction that some money may be spent in giving subsidies. It is recognised that it would be far preferable for the subsidy to be given to retailers in Germany instead of to Exporters, but after very carefully considering all the pros and cons, your Committee came to the conclusion that this was not practicable.

It has been recommended to the Tea Cess Committee that your Secretary should go over to Germany and report on Mr. Harington's work; he will also endeavour to ascertain whether there are any more advantageous ways of spending some of the Cess funds.

ADVERTISING IN THE UNITED KINGDOM.

As mentioned under the heading of "Tea Cess Funds" £2,000 has been voted by the Tea Cess Committee, on the recommendation of your Committee for the purpose of bringing the merits of Indian tea more prominently to the notice of the people of this country. There is an extraordinary amount of ignorance among the public about India tea; many people in this country (as in America) think Indian and Ceylon teas are one and the same thing, or that Indian is a grade of Ceylon tea, and there is no doubt that much good can be done by means of advertisements in newspapers, distribution of pamphlets and postcards, calling attention to the merits of Indian teas.

Owing to the grant being so small, it has been necessary to confine the work to a restricted area, in order to concentrate as much as possible. To this end advertisements have been inserted in 17 newspapers; these advertisements have been drawn up so as to catch the eye, and to convey incidentally some statement as to Indian tea, which would indicate its value. As far as possible the co-operation of retailers has been enlisted and in each town, where an advertisement has been placed, list of grocers and *cafes* stocking Indian tea is being prepared and advertised.

Mr. A. E. Duchesne, late Associate-Editor of the *Englishman* was appointed to administer the fund, under the supervision of your Secretary, and commenced work in March last. Since this time, besides the newspaper advertising, 14,000 postcards and 11,000 copies of Sir James Buckingham's pamphlet have been distributed. Mr. Duchesne is visiting the various towns in which he is advertising and interviewing the grocers, many of whom are very sympathetic and have promised to do what they can to help, by distributing small red pamphlet, postcards, etc., and by stocking a pure Indian Tea.

Several lectures, accompanied by magic lantern illustrations, have been given by Mr. Duchesne, of which favourable reports have appeared in 20 different newspapers. There is no demand for lectures during the summer months, but they will be resumed in the autumn, and meanwhile circulars are being distributed calling attention to them, with a view to arrangements being made in as many places as possible.

A number of paragraphs dealing with Indian Tea are going the round of the newspapers. Not only are they inserted in the papers advertised in, but are occasionally copied by others. It is intended to use this means of publication as far as the goodwill of the newspapers concerned will permit.

Your Committee are of opinion that the work now being done is on the right lines, but they are handicapped owing to the lack of funds. They believe that much more good would result if the money would allow of newspaper advertising being done on a larger scale, *i. e.*, that advertisements could be inserted in a much larger number of newspapers.

Green Tea.

During the past year your Committee have thoroughly considered with Mr. Blechynden—both in letters and at several interviews when he was in London—the question of the continuance or otherwise of the Green Tea bonus. Mr. Blechynden stated that Grocers, in the St. Louis territory, whom he had induced to push Indian green teas, were unable to obtain repeat orders, and had thus been compelled to fall back again on China and Japan green teas; unless, therefore, he could reckon on a steady supply of this class of tea being sent to the United States for several years, it would be better for him to drop green teas altogether, and to confine the whole of his efforts to pushing Indian black teas. This your Committee recommended him to do, as, taking into consideration the fact that the quantity of green teas manufactured in India had decreased each year since 1905, there is not much chance of it being again manufactured in any large quantity in the near future, more especially of the “faced” or “coloured” type, which it was understood Mr. Blechynden required.

Although the majority of the Members of your Committee were adverse to the continuance of the bonus on green teas, owing to the poor results obtained after a trial of 7 years, they did not pass any Resolution either for, or against, the measure, but left the question in the hands of the Tea Cess Committee, Calcutta, who ultimately decided on its discontinuance.

The quantity of Green Tea on which bonus was paid last year amounted to 1,143,197 lbs.

FRENCH IMPORT DUTIES ON TEA.

On the 4th November, 1908, a joint letter, from the Tea Buyers' Association, was addressed to Sir Edward Grey, the Secretary of State for Foreign Affairs, pointing out that on account of the very friendly feeling then existing between France and Great Britain, a good opportunity arose of bringing to the notice of the French Government the very high duty imposed on tea entering France, and soliciting his help to induce the French Government to either modify the duty or abolish the surtax on teas not coming direct from the country of origin.

In his reply, dated December 4th, Sir Edward Grey stated that the question of the revision of the French Customs Tariff was then under consideration by the Customs Commission of the French Chamber of Deputies, and as no information was available as to the recommendations of this Commission, it would be premature to approach the French Government: he promised, however, that the interests of Tea should not be lost sight of, in connection with any representation which it might be decided to make to the French Government on behalf of British Interests.

ANTI-TEA-DUTY LEAGUE.

In December last, your Committee unanimously resolved to guarantee £100 from the Indian Tea Fund towards the up-keep of the Anti-Tea-Duty League until the issue of the Budget. Mr. Roberts undertook to instruct Mr. Cope to obtain as many subscriptions as possible in order to make the grant from the Association as small as possible, and eventually the Secretary of the League called for half the amount guaranteed, *viz.*, £50.

TEA.

The British Tea Duty.

On Thursday, September 23rd, the House of Commons, in Committee, discussed Clause 60 of the Finance Bill, which re-imposes the duty on tea at 5*d.* per pound.

Mr. Gwynn (Galway) moved an amendment to reduce the tea duty from 5*d.* to 4*d.* the lb. He agreed with the proposal of the Chancellor of the Exchequer that taxation should be levied on luxuries rather than on necessities.

But in the case of tea the right honorable gentleman had not acted upon his own principle. Under the modern conditions of life tea was a necessity in this country. He agreed also that the money to meet the public charges must be raised. Why not substitute aerated waters for tea? Aerated waters were really a luxury, and, furthermore, by taxing them, the teetotaler, as well as the consumer of alcohol, would be reached.—Mr. T. P. O'Connor (Liverpool, Scotland Division) said he had always opposed the tea duty, because he regarded it as a tax on food. It pressed hardly on the people of England, but it pressed more hardly still on the Irish people, for in Ireland tea was more universally drunk than in England, and was one of

THE PRIME NECESSITIES OF LIFE.

He objected also to the tea tax because it was an indirect tax, and he thought that indirect taxation should be decreased.—Mr. Fell (Great Yarmouth) thought it was an argument in favour of lowering the tea duty that, notwithstanding the facts that the population of this country was rapidly growing and that tea was an article of universal consumption amongst rich and poor alike, the consumption of tea remained practically stationary. In the old days the 4*d.* duty then charged bore a much smaller proportion to the value of the article than the duty now did. While the amount of duty had been raised, the price of tea had been constantly reduced, so that the proportion of duty was now very much higher than formerly. Tea bore a far higher percentage of the war tax than some other articles. Champagne and wines might have been taxed higher instead of tea—a prime necessary of life.—Mr. Snowden (Blackburn) said this was a tax which in some cases amounted to 120 per cent. on one of the necessities of life. It was disproportionate, for it let the rich off lightly and hit the poor heavily. In the United States of America the Customs authorities would have power under the new tariff to refuse permission to land

TEA OF INFERIOR QUALITY,

and the result of that, in conjunction with the high duty imposed upon tea in this country, would be that the tea which the United States would not have would be sent to the United Kingdom. Indirect taxation was taxation not according to ability but to necessity; it was collected at an inconvenient time, and it took a great deal more from the tax-payer than it yielded to the State. For the reasons which he had given he and his colleagues supported the amendment.—The Chancellor of the Exchequer, in the course of his reply, asked what was the reason they had not reduced the tea duty this year? It was because they found themselves with a deficit of £16,000,000 of which eight or nine millions was for old-age pensions. Coming to the hon'ble member who had moved the amendment, he joined him in his protest against the tea duty. He had protested against it for years; indeed, the very first vote he gave as a member of the House was a vote for the reduction of the tea duty. He did not regret it; nothing would give him greater satisfaction than to be able to take off 1*d.*, or even 2*d.* or 3*d.* off the tea duty. Everything the hon'ble member had said about

THE HARSHIP OF THE TEA DUTY

upon the poorest of the poor he heartily sympathised with, and did not recede from one inch. He took some pride in the fact that he had not put the duty up. At the same time, he did not believe that anyone in the position of the Chancellor of the Exchequer would propose this year to reduce the tea duty. Taking a full survey of the whole position and the new duties they had to impose, not only for this year, but next, he thought anyone in his position would come to the conclusion very reluctantly that this year he could not take 1*d.* or 2*d.* off tea. He was told by those in the trade that taking 1*d.* off would not answer the purpose; they must take off 2*d.*, otherwise they would not bring it home to the people they sought to benefit. Would anyone with the responsibility of advising him suggest that this year, when he wanted £16,000,000, and when he should want £20,000,000 next year, he should throw away £2,250,000 in the tea duty? In these circumstances he thought the House of Commons would see clearly that the Government were justified, at any rate in the present year, in standing by the tea duty. After further speeches the Committee divided, and the amendment was rejected by a majority of fifty-three. The clause was afterwards agreed to.

On the Aroma of Black Tea.

By T. KATAYAMA.

It is of great importance for the manufacture of black tea, to know by what agencies its agreeable aroma is produced. The so-called fermentation of tea is attributed by some authors to microbes; by others, however, to the enzymes of the leaves. Bamber (*a*) denies the existence of a genuine fermentation, having been unable to observe any microbe. Newton (*b*) supposes that the flavour of black tea is dependent upon the action of an oxidizing enzyme in the tea leaf, but Crole (*c*) and other authors ascribe the fermentation at least partly to the action of certain micro-organisms (*d*).

Since I had observed frequently bacilli on the rolled tea leaves undergoing the fermenting process, I was led to suppose that some relations between these bacilli and chemical changes in the tea leaf might exist. Hence I tried to kill the ordinary microbes adhering to the leaves and to infect the leaves with bacilli taken from *fermenting* leaves.

Fresh tea leaves were left in ether for 4 hours, rolled and dried as usual. The green colour of these leaves not only gradually changed to brownish, but also the characteristic aroma of black tea was observed after 10 hours, in spite of the odour of adhering traces of ether.

This experiment shows that the aroma is not caused by any micro-organisms. The same result was obtained when the ether was substituted by alcohol and chloroform. Also powerful antiseptics as cresol, mercuric chloride were tried. Fresh tea leaves were soaked in a 4 per cent. cresol solution for 24 hours washed once with distilled water, dried in the sun and then rolled and kept compactly in a flask. The tea leaves changed gradually in colour to brownish-black and after 15 hours produced a distinct aroma, modified, however, by the odour of traces of cresol remaining. Fresh tea leaves were left in a 1 per cent. HgCl solution for 20 hours, whereby the leaves assumed a pale appearance, and washed with distilled water. When kept in a flask, the characteristic aroma of black tea was also here observed after some time, but the blackening of the leaves was here not observed. When the so-called fermentation process is allowed to go on for too long a time before drying or firing, the normal aroma produced gradually disappears and a sour smell develops. Finally white mould appears on the leaves. However, if the leaf is treated with antiseptics as above-mentioned, the sour smell is not observed. These tests render it very probable that the development of aroma is due to the action of certain enzymes originally present in the leaves which

produce the specific volatile oil of tea from certain compounds. This is in analogy to the flavour of tobacco which is also produced by the action of enzymes (oxidases).

I have further observed that after treating tea leaves with cyanogen gas for 5 hours the aroma fails to appear. When tea leaves are repeatedly treated with ether or alcohol, the aroma fails to develop, which shows that these substances which yield the aroma have been extracted by ether and alcohol, which agrees with observations of Kozai. Since Kozai, Bamber and other authors observed that black tea cannot be manufactured from steamed tea leaves, I have tried the influence of various lower temperature. The tea leaves were kept at these temperatures for an hour and after having gone through the usual process the results were as follows:—

40 °C	Good aroma
50 "	" "
60 "	only a very weak aroma.
65 "	no aroma, only a raw grassy smell.
75 "	" " " "
100 "	" " " "

This result supports my opinion, that the production of aroma is caused by a certain enzyme. As to oxidizing enzymes their presence can easily be demonstrated. When tea leaves are treated with strong alcohol until the tannin is entirely removed, and then treated with distilled water, the aqueous extract thus obtained behaves as follows:—

	<i>Guaiac tincture.</i>	<i>Guaiac plus H2O2.</i>
40 (aroma)	blue.	deep blue.
50 (")	"	"
60 (very weak)	"	"
65 (no aroma)	"	"
75 (")	no coloration.	no coloration.
100 (")	"	"

Since the leaves kept at 65° developed no aroma, but gave still the reactions for oxidase, and peroxidase, it appears that other enzymes than these are concerned in the production of aroma.

POST SCRIPTUM.

As Mr. Katayama having had to break off his studies on account of his departure for India and Europe, Prof. Sawamura made a further experiment upon which he reports as follows:—

"I extracted 156g of fresh tea leaves with 900 c. c. of absolute alcohol and 147g with 1 litre of 20 per cent. alcohol. The former extract was evaporated to dryness and the residue dissolved in water (A). The latter extract was precipitated with ether-alcohol (B). By adding the precipitate B containing the enzymes to the solution (A), an agreeable aroma characteristic for the prepared tea was produced."

This result is a further confirmation of the view, that the tea aroma is caused by the original enzymes of the leaves. But the true nature of the enzymic process requires further study. The most probable supposition is, however, that a peculiar enzyme splits a certain glycoside present in small quantities and that one constituent thus liberated yields by taking up oxygen the aroma of tea.

Y. KOZAI.

The Brick-Tea Trade.

In the course of an article on this subject the *Englishman* (Calcutta), remarks :—

There are, it appears, some three kinds of brick-tea prepared to suit the tastes of the different classes of customers in Central Asia, Russia and Siberia. Two kinds of this tablet-tea are manufactured at Hankow for the Siberian and Russian market, and are known as the large bricks and the small bricks. The large bricks are made by placing a quantity of common tea dust in a sort of pudding-cloth or bag, which is steamed for a few moments so as to cause it to adhere ; this is then turned into wooden moulds, where it is beaten to the required consistency, with wooden mallets. A more modern plan is to put the tea dust into an iron mould in which it is steamed and pressed. A large brick should weigh one catty, or 1½ lbs., and the prime cost is said to be two pence half-penny a pound, so that a considerable profit can be made on it. The smaller bricks are of superior quality, and are made of only the finest and best tea dust. This tea dust is not steamed, but it is poured into steel moulds, quite dry, and subjected to great hydraulic pressure. In this way the tea is bound to preserve its aroma and freshness for an indefinite time and the retail price of these small bricks is never less than four shillings a pound. The original brick-tea of China was, and is, a more unsophisticated article. It is made of the whole leaf, stalk and flower, as picked from the tea shrubs. These are well chewed by the native makers, and, when they are thoroughly saturated with saliva, they are rolled-up into balls and partly dried, after which they are placed in moulds and pressed into the form of bricks. This method of preparation does not sound very inviting, and it is said that the tea thus prepared acquires a slightly sour taste from the saliva ; but it is much appreciated in Tibet and Siberia. The official writer stated that the trade in brick-tea is a strict monopoly of the Lamas, the priestly caste of Tibet, and that they are very jealous of any interference with what is to them a very profitable business. This statement was amply confirmed by the observations of the Tibet Expedition of 1904. . . . Such information as is available as to the demand for brick-tea in Tibet points to the line to be taken by Indian Tea Planters. When the latter can produce a steady supply of really cheap brick-tea, that can be put within reach of the people of Tibet at a low and tempting price, not all the authority of the Lamas or all the edicts of the Chinese mandarins, will prevent the Tibetan merchant and tea-vendor from combining to make a venture which will repay him more than cent per cent if successful. There should be no cessation of efforts upon the part of the tea interests, and of the Government of India, to get the barriers of trade, which operate against the manufacture and export of brick-tea to Tibet, broken down.

Mr. WM. PAHL, a German Chemist, Proprietor of the Dortmund India Rubber Factory, says of Ceylon Rubber :—

"The quality is splendid, and the industry in Ceylon and the whole of the East has a great future before it. From a manufacturer's point of view the quality of Ceylon Rubber, however, is not as good as the rubber from Brazil. At present the latex is treated with acetic acid, but I do not think a great deal of that process. There is room for much improvement . . . Planters should be told not to plant anything except *Hevea Brasiliensis*, as it gives the best rubber, fetches the best price, and is the easiest of all to work."

It is stated that the Tea market in West Australia suffers, so far as Ceylon [or India] is concerned, from the amount of teas blended in the Eastern States, packeted there, and palmed off on the public as "pure hill-grown Ceylon." To meet this the best way would be to encourage direct importation, but, in view of the fact that many of the leading wholesale house and proprietors of registered brands have their head-quarters in the Eastern States, very obvious difficulties are presented.

OFFICIAL PAPERS.

British Customs Commissioners' Report.

The Commissioners of Customs, in their Report for the year ended March 31st, 1909, state :—

CHICORY DUTY.

The receipts from chicory are slightly larger than in 1907-08, though smaller than in any previous financial year. The quantity of imported chicory retained for Home consumption and the net duty received, in each of the past five years, were as follows :—1904-05, 77,230 cwts., £51,409 net duty; 1905-06, 72,748 cwts., £48,363 net duty; 1906-07, 73,074 cwts., £48,550 net duty; 1907-08, 71,531 cwts., £47,510 net duty; 1908-09, 72,744 cwts., £48,353 net duty. The Excise duty charged on home-grown chicory in 1908-09 was £439, as compared with £761 in 1907-08.

COCOA DUTY.

The revenue from cocoa in 1908-09 was £310,000, as compared with £287,000 in 1907-08, an increase of £23,000, or 8 per cent. This was mainly due to large clearances in the last six weeks of the financial year. But, after allowing for this, the revenue is the largest ever received from this article, and, although clearances fluctuate somewhat from year to year, the consumption appears to be rising steadily. The increased clearances of 1908-09, were chiefly in raw cocoa.

COFFEE DUTY.

The yield of the coffee duty in 1908-09 was £185,000, as against £184,000 in 1907-08, but this slight improvement was due to a sudden increase in clearances at the end of the financial year, when forestalments were taking place in almost all dutiable goods. The consumption per head is still declining. Attempts are being made to push the sale in England of Brazilian coffee, large stocks of which have accumulated in the hands of the San Paulo Government, but it is not likely that this will affect the consumption of coffee as a whole. The quantities retained for Home consumption and the net receipts of duty for the past five financial years are as follows :—

		Quantity.		Net Duty.	
		Cwt.		£	
1904-05	...	257,159	...	179,485	
1905-06	...	259,326	...	181,167	
1906-07	...	260,363	...	175,216	
1907-08	...	263,137	...	183,624	
1908-09	...	264,875	...	184,991	

The quantities of duty-paid coffee roasted or ground in the United Kingdom and exported on drawback, and the amounts repaid thereon, were :—

		Quantity.		Amount of Drawback.	
		Cwt.		£	
1904-05	...	6,170	...	4,833	
1905-06	...	6,036	...	4,728	
1906-07	...	6,222	...	4,874	
1907-08	...	8,015	...	6,280	
1908-09	...	6,649	...	5,209	

TEA DUTY.

The net receipts from tea 1908-09 were £6,046,000, as against £5,808,000 in 1907-08, a very substantial increase (£238,000) even after allowing for considerable forestalments at the end of 1908-09. An increase at this rate is somewhat remarkable in a time of industrial depression, and must be ascribed in part to the fact that, in such times, tea is often made to take

the place of solid food. The quantities of tea retained for consumption, and the receipts of duty, during the past five years have been as follows :—

Years.				Rate of Duty.	Quantity retained.	Net Duty received.
1904-05	...	...	...	Per lb. 8 <i>d.</i> (from April 20, 1904.)	lb. 251,279,852	£ 8,271,866
1905-06	...	...	...	6 <i>d.</i> (from July 1, 1905.)	261,585,171	6,814,908
1906-07	...	...	...	5 <i>d.</i> (from May 14, 1906.)	265,680,089	5,588,288
1907-08	...	...	...	5 <i>d.</i>	279,167,804	5,807,947
1908-09	...	...	...	5 <i>d.</i>	290,628,968	6,046,211

In view of the disturbances caused by anticipations of a change in the duty the following table gives a truer picture of the increase in the consumption of tea. The average value as declared on importation is also shown.

Calendar Years.			Quantity retained.	Triennial Averages.	Quantity per head of population.	Average declared value.
			lbs.	lbs.	lbs.	per lb. <i>d.</i>
1894	...	...	214,259,315	221,238,000	5·64	9·59
1895	...	...	221,731,490			9·63
1896	...	...	227,722,561			9·55
1897	...	...	221,328,156	236,396,000	5·85	9·36
1898	...	...	235,353,767			9·13
1899	...	...	242,506,079			8·82
1900 (a)	...	...	249,751,032	253,325,000	6·09	8·54
1901	...	...	255,824,617			7·67
1902	...	...	254,398,837			7·20
1903	...	...	255,327,559	256,857,000	6·00	7·71
1904 (b)	...	...	250,467,462			7·24
1905 (c)	...	...	208,776,914			7·24
1906 (d)	...	...	269,503,175	272,837,000	6·18	7·40
1907	...	...	273,768,525			8·13
1908	...	...	275,239,751			7·96

(a) Duty increased from 4*d.* to 6*d.* per lb. on March 6th, 1900.

(b) Duty increased from 6*d.* to 8*d.* per lb. on April 20th, 1904.

(c) Duty reduced from 8*d.* to 6*d.* per lb. on July 1st, 1905.

(d) Duty reduced from 6*d.* to 5*d.* per lb. on May 14th, 1906.

The percentages of tea retained for consumption from India, Ceylon, China, and other countries, in the last five years, have been as follows :—

	1904-05.	1905-06.	1906-07.	1907-08.	1908-09.
Tea of British East Indies (except Ceylon) ...	59·84	58·05	59·96	57·94	58·44
" Ceylon ...	32·14	34·46	32·79	32·78	32·61
" China (including Hong Kong and Macao) ...	3·72	2·50	2·16	3·95	2·89
" Other Countries ...	4·30	4·99	5·09	5·33	6·06
	100·00	100·00	100·00	100·00	100·00

SALE OF FOOD AND DRUGS ACTS, 1875 and 1899.

The Customs Department is entrusted with various duties under the Sale of Food and Drugs Acts and the Butter and Margarine Act, 1907.

Tea.—During the past year 318,495,798 lbs. of tea were imported and inspected by surveyors of Customs, and 4,750 samples were drawn and submitted for analysis. The results of the examination of these samples, together with the corresponding details for the samples drawn in each of the four previous years, are shown below:—

Year ended March 31.	Number of Tea Samples analysed.	The goods represented by these samples were disposed of as follows:—		
		Delivered on the Certificate of the Analyst.	Submitted to the Board for their directions, with the following results.	
			Allowed to be delivered for Home Consumption.	Allowed to be delivered for Exportation, (but not for Ships' Stores or for use in the manufacture of Caffeine, &c.
1905 ...	3,259	2,943	24	292
1906 ...	2,906	2,391	16	409
1907 ...	2,205	1,837	0	368
1908 ...	3,952	3,473	0	479
1909 ...	4,750	4,361(a)	0	389(b)

(a) Representing 56,400 packages.

(b) Representing 464 packages (42,452 lbs.), 48 samples represented 108 packages which were condemned as unfit for food.

FEES FOR AGRICULTURAL ANALYSIS.

The following tariffs are published at the suggestion of the Scientific Officer, for the guidance of Planters who desire to have analyses made. Mr. Fawcitt, St. Mark's Road, Bangalore, and Messrs. J. B. Forster & Co., Pharmaceutical and Analytical Chemists, South Parade, Bangalore, are the Analysts whose rates are given below:—

	Sols.	Messrs. J. B. Forster & Co.	
		Mr. Fawcitt.	Rs. A.
A. Available Phosphoric Acid and Potash	Rs. A.	Rs. A.
B. Total Nitrogen	15 0	10 0
C. Humus. (Organic matter)	7 8	7 8
D. Full Analysis including A. B. & C. with complete Analysis of Mineral matters soluble in acid	7 8	7 8
E. Full Analysis including A. B. C. & D. with complete Analysis of Mineral matters insoluble in acid	60 0	40 0
		90 0	60 0
Manures.			
Soluble Potash	7 8	7 8
Total Potash	7 8	7 8
Soluble Phosphoric Acid	7 8	7 8
Total Phosphoric Acid	7 8	7 8
Total Nitrogen	7 8	7 8
Any two of the above in one sample	12 8	10 0
Any three of the above in one sample	15 0	15 0
Complete Analyses.			
Lime (Insoluble, Metallic Oxides, Lime and Magnesia	15 0	15 0
Simple Manures (Poonac, Fish, Bone Meal, &c.)	15—25 0	20 0
Mixed Fertilisers	25—35 0	30 0

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Act I of 1903, &c.

The *Wynaad Planters' Association*, at a Special Meeting held on the 10th ultimo, recorded its opinion concerning the Resolution on Madras Act I of 1903 passed at the last Annual Meeting of the U. P. A. S. I.

The votes were as follows:—18 in favour of the general application of the Act; and 11 against.

Special attention is invited to the following extract from the Proceedings of an Extraordinary General Meeting of the *Anamalai Planters' Association* held on Monday, the 8th November, 1909:—

"*Act I of 1903.*—The following Resolutions were moved from the Chair: 'That this Association is opposed to the extension of the provisions of Act I of 1903 to the Anamalai District.'"
Carried nem. con.

Registration.—The following Resolutions proposed by Mr. Congreve and seconded by Mr. Duncan were carried unanimously:—

"1. That this Association deplores the attitude taken by some District Associations in not seriously considering the subject of recruiting for labour, because of the present friction as regards Labour Laws. It urges again the absolute necessity for regulating present recruiting conditions and for removing the abuses continually arising therefrom, and in so doing again emphatically declares that recruiting for labour has nothing whatever in common with laws providing for the punishment of defaulters and must therefore be considered, as a separate measure and not mixed up with existing Acts in the manner it has been, as shown by the Proceedings of some Associations.

"2. That the Secretary of the U. P. A. S. I. be requested to ask for answers from all District Associations to the following questions:—

- (a). Does your Association consider the present conditions of recruiting labour, for both inland and foreign work, to be entirely satisfactory?
- (b). If not, will your Association formulate a better suggestion for regulating *all* recruiting for labour than that put forward by the Anamalai Planters' Association?"

The above questions were circulated to District Planters' Associations.

The *Kanan Devan* Planters' Association replies to question No. 1:—"We are quite satisfied with the present conditions of recruiting labour."

No other replies have been received yet,

"

Prevention of Thefts of Tea.

Intimation has been received that the Madras Government are not at present prepared to undertake legislation on similar lines to those of the Coffee-stealing Prevention Act with the object of preventing Thefts of Tea.

Feeder Roads on the Shevaroyas.

The Madras Government state that they are not prepared at present to spend any more money on the construction of feeder roads on the Shevaroyas.

The Theni Bridge.

It is officially stated that a design for the proposed bridge is under consideration and that estimates for the improvement of the ghât road have been called for.

This was already known. What is wanted is that the authorities concerned should expedite matters.

Postal Delays.

The Chief Secretary to the Government of Madras, Judicial Department, writes as follows, under date 29th November, 1909 :—

"In continuation of letter No. 4985-3, Judicial, dated the 8th October, 1909, regarding the delay in the transmission of parcels and registered articles, in certain parts of the Madura District owing to the insecurity of the roads, I am directed to inform you that the roads are now considered safe and that the Postmaster-General has intimated that the old arrangement for the conveyance of the Mails will be reverted to."

The Legislative Council of Fort St. George.

In the *Fort St. George Gazette*, publicity is given to a notification of the Government of India laying down the Regulations under the Indian Councils Act, 1909, for the Madras Legislative Council.

The only points of special importance to planters are that the planting community is recognized as an electorate and is granted the right to elect a Member of the above Council in accordance with the provisions of the Regulation, and that such election shall be held before the 25th day of December, 1909.

The following are the *Rules for the election of an additional member by the planting community* :—

1. On receipt of an intimation that an election is to be held, the Secretary to the United Planters' Association of Southern India shall, without delay, send, by registered post, to the Secretary to each affiliated Planters' Association a notice that an election is to be held on or before such date as the Governor may appoint in this behalf.

2. Upon receipt of the notice referred to in Rule 1, the Secretary to each of the said Associations shall, without delay, send to each member of his Association a notice that a Meeting of the members of the affiliated Association will be held at a specified place and time and on a specified date, which date shall be not less than ten clear days before the date referred to in Rule 1.

3. (1) At the Meeting held under Rule 2 each member of the affiliated Association shall be entitled to give one vote for one candidate for election to the Madras Legislative Council. (2) Any person not ineligible for election under these Regulations who is a member of one of the Planters' Associations affiliated to the United Planters' Association of Southern India, shall be eligible for election. (3) The voter shall record his vote on a voting paper, whereon he shall write the name of the person voted for and his own full signature, and shall place the voting paper in a ballot-box. (4) As soon as, in the opinion of

the member presiding at the Meeting, sufficient time has elapsed to enable the voting to be completed he shall ask whether any member present has not yet voted, and shall call upon such member to vote within such time as the member presiding may fix. (5) If there is no member present who has not voted, or on the expiry of the time so fixed, the presiding member shall open the ballot-box, count the votes and, after rejecting any voting papers not prepared in accordance with this rule, shall announce the result of the ballot to the Meeting. (6) In case of an equality of votes for two or more persons, the presiding member shall have a second, or casting, vote.

4. Immediately after the conclusion of the ballot under Rule 3, the Secretary to the affiliated Association shall report the result thereof by registered post to the Secretary to the United Planters' Association of Southern India.

5. Upon receipt of the reports under Rule 4 from the affiliated Associations, the Secretary to the United Planters' Association of Southern India shall give to the vote of each of the affiliated Associations the value assigned to it by the rules framed by the United Planters' Association of Southern India to regulate voting at General Meetings of that body and shall determine which candidate has received the largest number of votes as so valued.

6. In the event of two or more candidates for election receiving an equal number of votes, as determined under Rule 5, the Secretary to the United Planters' Association of Southern India shall report the fact without delay to the Chairman of the said Association or, in his absence, to the Vice-Chairman of that Association, and the Chairman, or Vice-Chairman, as the case may be, shall have a casting vote.

7. The voting papers given in at the Meetings held under Rule 3 shall be sealed up and retained by the Secretaries to the affiliated Associations for six months, and shall then be destroyed.

8. The Secretary to the United Planters' Association of Southern India shall forthwith report by registered post the name of the person elected to the Secretary to the Government of Madras in the Legislative Department, and the name of the candidate elected shall be published in the Local Official Gazette.

Histories of Planting Districts.

A few books and pamphlets (mostly published some years ago) are available that throw light upon the growth of the planting industry in certain districts; but even in these cases great gaps are visible in the published "histories," while as regards other districts nothing appears to be on record.

Individual planters who are in a position to supplement existing publications or to furnish entirely new matter relating to the establishment and the rise and fall of the industry in any District would confer a boon upon their brethren if they would kindly send either detailed accounts or mere notes to the Editor of *The Planters' Chronicle*, who would like to be furnished with information that would enable him to trace progress in each such District for the information of members of the planting community and others.

In *Planting Opinion*, some years ago, various articles were published bearing on this subject; but these are not available among the papers at the U. P. A. S. I. Office. A temporary loan of any old files containing such articles would be greatly appreciated. Copies could then be made, and the original papers returned to owners.

The Renard Road Train.

Sir Henry E. McCallum, Governor of Ceylon, alluded to the Renard Road Train in an Address to the Ceylon Legislative Council on November 10th, 1909. What he said under the head of "Motor Traction, including Improvements to Roads" is not very encouraging to planters in Mysore and Coorg who

are awaiting the decision of the M. and S. M. Railway Company in respect to the Renard Road Train as a means of transport for the planting districts.

Sir Henry McCallum said: "Favourable accounts having been received as to the efficiency and the economy of that novel form of mechanical traction which is known as the Renard Road Train (consisting of a motor and three trailers) the Government sent expert officers to India to be present at the trial of an experimental train at Calcutta on the plains and at Shillong in the hills. Making allowance for all the difficulties which attended these experiments, the reports received were fairly satisfactory. Two complete trains were therefore ordered from England, on the understanding that the Secretary of State's expert advisers (who are the Mechanical Transport Committee at the War Office) were first to assure him that the system is as efficient and economical as has been represented. On my arrival home I found that the Committee held a contrary opinion, and considered that both the working expenses and depreciation had been under-estimated. After some correspondence it was arranged that the Directors of the Company and the Committee should meet at the War Office, and that I should be present. After some discussion I invited the Company to supply and themselves work the two trains for two years, Government undertaking to carry out all the improvements necessary to the roads, including the strengthening of the bridges. If the trains proved to be satisfactory, and if the anticipations as to working expenses and depreciation were fulfilled, I undertook, subject to the approval of the Secretary of State, that the Government would take over the trains at the end of the two years. This offer the Company declined.

"I then proposed that if we purchased the trains, the Company should guarantee the Government that with normal traffic and due care these particular charges would not be exceeded during the five years of anticipated life. This they said they were prepared to do, but a letter from them on the subject laid down the impossible condition that we should give the Company a heavy annual premium in consideration of such guarantee. I agreed with the Mechanical Transport Committee that such a condition was absurd, and that we must look for the necessary mechanical traction in other directions. The principle of the Renard Road Train in making use of the load carried in the trailers is recognized as sound, and the attention of inventors is being given to the use of electricity for the purpose, instead of the present complicated power-absorbing mechanical contrivances. There is nothing, however, yet upon the market.

"Special designs will probably have to be supplied, as I impressed on the Committee that the weight on an axle must in no case exceed four tons, and that three tons would be preferable. Also that the extreme width over all must not exceed 5 feet 6 inches.

"The general policy of the Government will be to encourage private enterprise in this matter of supplying and working motor traction, always provided that the rates per ton mile are moderate and prove satisfactory to those concerned; also that the service is regular and frequent, and conforms to all local requirements. Any system of mechanical traction will entail considerable expenditure in the matter of improving roads and strengthening bridges. This must either be carried out to the satisfaction of the Director of Public Works by the individuals or companies who desire to embark on the enterprise, or, if the Secretary of State approves, will be undertaken by the Government from the loan vote, a small charge being levied on every ton of goods carried to cover interest and sinking fund on the expenditure incurred.

"Where private enterprise is not forthcoming, satisfactory alike to the Government and the public, the Government will be prepared to consider the advisability of running a service as a business proposition. A capital account will be kept covering cost of rolling stock, improvements to roads and strengthening of bridges, garage, quarters, &c. Under working expenses due provision would be made for repairs and depreciation, interest and sinking fund. Assurances of traffic must be forthcoming from those concerned."

Stump Rot.

Mr. G. K. Martin, Manager of Mr. Randolph H. Morris' Estates, has written as follows from Attikan Estate, Chamarajnagar, Mysore: "I note in the *Planters' Chronicle* of the current month, under the heading 'Scientific Officer's Papers, VI—Tree stumps and root fungus'—that the Scientific Officer would be glad to have the names of such trees as are really known to cause what is known as 'stump rot.' He particularises some trees, and among the *Ficus* tribe, the 'Bussari' only. I may add the 'Atti' to the list which I have just found on this Estate to be a fatal breeder of 'stump rot.'

"I discovered about 20 patches of coffee trees dying out or dead, and in every patch I found a rotten stump of an 'Atti' tree. All these patches, needless to say, are being treated in accordance with Mr. Anstead's recommendations. As 'Attis' are condemned in these parts (practically Nilgiri District) on account—it is said—of their tendency to encourage 'green bug' it appears to be a case of 'between the Devil and the Deep Sea.' For if one leaves them there is a risk of the 'green bug' devastating the Estate, and if one kills the 'Attis,' 'Stump rot' wipes the coffee trees out! On this Estate (called 'Attikhan' because of the number of 'Atti' trees thereon) all the 'Atti' trees have been cut down and the stumps barked to the ground. Fortunately, it appears from my subsequent discovery, most of these have not died but are throwing up shoots from the roots.

"Now what is to be done? Nourish them into life again or kill them? To root them out whilst there is life in them would be prohibitive expenditure and almost impossible. Their roots extend great distances on every side. Here is a problem for your Scientific Officer!"

[*Note by the Scientific Officer.*—"Atti" is *Ficus glomerata*. The difficulty in which our correspondent finds himself can be got over by isolating each Atti stump by digging round it a trench 2 to 3 feet deep, *before killing it*. The stump rot appears to usually start at the collar of the dead stump, and consequently this treatment will, in all probability, check the attack. A few coffee trees near the stump may have to be included within the isolated area and sacrificed, but those outside will be saved. A watch should be kept on each stump thus treated, and if the disease appears outside the trench another must be dug. This will, I think, not be necessary in the majority of cases].

Address to H. E. the Viceroy.

At Mysore, on the 27th November, the following Address, in a very handsome silver casket, was presented to H. E. the Viceroy on behalf of the North and South Mysore Planters' Associations:—

"MAY IT PLEASE YOUR EXCELLENCY,—

"We, the representatives of the European Planting Community, have the honour to offer Your Excellency and Lady Minto a heartfelt welcome to Mysore and to cordially join in giving the fullest possible expression to the satisfaction and pleasure which will be evinced throughout the territories of His Highness the Maharajah, that this interesting and progressive State has been included in a tour which has for its object the fulfilment of Your Excellency's desire to become personally acquainted with the numerous local circumstances upon which the steady development of its material welfare depends and to gain a fuller insight into every requirement connected with the maintenance of the prosperity and contentment of its inhabitants.

"We avail ourselves of this opportunity of most respectfully reiterating the sentiments which we have always cherished and expressed of profound loyalty to the Throne and Person of our Illustrious Sovereign the King-Emperor under whose benevolent rule this vast Empire continues to make uninterrupted progress.

"As British subjects who have fully participated in the benefits secured under His Highness the Maharajah's enlightened rule, we esteem it a privilege to be allowed during Your Excellency's visit to allude briefly to certain matters affecting the interests of those we represent.

"We would join in the grateful recognition of the promptitude with which the Government of Madras generously accorded its advocacy of the appointment of a Scientific Officer for the purpose of assisting the Planting Industries of Southern India and of the sympathetic spirit in which the Supreme Government acquiesced in this addition to the strength of the Indian Agricultural Department.

"Although we cannot but deeply regret the disappointing communication recently received relative to the prospects of the construction of the Arsikere-Mangalore Railway, we have the honour to express the confident hope that Your Excellency's tour may tend to confirm the many cogent reasons advanced in support of this desirable project, so that the most encouraging terms possible may be offered when proposals for its construction are made.

"We have the honour most earnestly to represent that even apart from the grave position of disadvantage in which the planting community of this Province has for so many years been placed, in the interests of all engaged in industrial pursuits and in view to the equitable unification of reasonable administrative facilities for the maintenance of cheap, prompt and efficient justice, Your Excellency taking into consideration the great increase in trade, commerce, mining and other industrial activities which has taken place in Mysore during the last 31 years and more especially because Mysore, unlike other Indian States (under arrangements made in 1878), executes all British processes precisely as if they had emanated from its own local Courts—may be graciously pleased to acknowledge the expediency of according a fuller recognition of the status of its Courts by taking 'such legislative action as will allow of Mysore Criminal processes being executed in British India in the same manner as if such processes had been issued by the Courts in British India.'

"In conclusion, we confidently hope that Your Excellency's tour through this historic Province made during the most enjoyable season of the year may be attended with every possible pleasure and that the kindly interest which Your Excellency has taken in the enterprises and industries of Mysore and the future possibilities of everything appertaining to its welfare may long continue to be associated with pleasing recollections of the scenery and other amenities of the country generally."

HIS EXCELLENCY'S REPLY.

GENTLEMEN,—As the representative of the King-Emperor, I have listened with pleasure to the expressions in your address of loyalty towards the Throne, and I thank you sincerely for your kind words of welcome to me on my first visit to Mysore. Though I have long been acquainted with the excellence of His Highness the Maharajah's rule, I am very glad of the opportunity afforded me of making myself personally acquainted with the local conditions upon which the development of the resources of Mysore are so largely dependent. The Government of India has never been neglectful of the planting industry, which is an important branch of imperial agriculture, and I am glad to hear from you as British subjects that you recognise the benefits secured to you under His Highness's administration. I understand the Mysore Durbar are generously contributing towards the salary of the Scientific Officer, to whom you have alluded, although they possess an expert Mycologist of their own, and until lately I believe employed an Agricultural Chemist, who was of much service to the planters. I understand you to refer to the difficulties which many coffee estates have to face owing to their distance from a railway. The difficulty is no doubt a real one, but I am under the impression that most planting districts in India are similarly remote from the main lines of communication, owing to their often being situated in somewhat wild tracts of country, with a sparse population, with a view to obtaining a higher elevation and better rainfall. In this respect I am inclined to think the Mysore planters are probably as well off as their brethren in British India. Also they hold their land at cheap rates and on an assured tenure. The State is well supplied with roads, and their representations to the Durbar never fail to receive due attention. As to the labour question, to which you allude, and the necessity

for special legislation, I would venture to remind you of the action already taken by the Government of India with a view to assisting you in this direction, whilst the Madras Act of 1903 gives power to Local Governments to issue a notification authorising the execution within the Presidency of any process issued under any Labour Act in any Native State. I understand that the Mysore Durbar approved the Bill when it was submitted to them in draft, and considered that it would satisfactorily dispose of all difficulties, and were ready to enact a similar law in the Mysore State, and as far as my information goes it would seem to me that the reason why no such law has yet been passed in Mysore is probably due to the planters themselves not being entirely of one mind on the matter, or generally convinced that such a law would on the whole be conducive to their interests. In the present circumstances, therefore, the question is, I think, one for consideration by your community, and I feel quite sure that if you agree as to the advisability of the application of a special Labour Law you will find that your proposals will receive careful and sympathetic consideration from His Highness's Government. I am extremely glad to have had this opportunity of making acquaintance with the Mysore planters, and of listening to their views, in respect of the interests of the great industry which they represent, and as to which it would be a great pleasure to me to give them every assistance in my power. I thank you again, gentlemen, for the kind words of your address.

Telegrams.

A further representation to the Director-General of Telegraphs on the subject of the Resolution adopted at the last Annual Meeting concerning Addresses, &c., of telegrams has elicited from that official the following letter dated November 23rd, 1909 :—

With reference to your letter dated the 7th of October, 1909, I have the honour to forward herewith a copy of Government of India, Department of Commerce and Industry, letter No. 8032-153, dated the 25th of October, 1909, to the address of the Chairman, Bombay Chamber of Commerce, containing the conclusions arrived at by the Government of India on the various suggestions which have been made regarding insufficiently addressed telegrams.

Paragraph 2 of my letter No. 6686-T, dated the 30th of August, 1909, appears to have been misunderstood. It was intended to explain that the gumming of the envelopes in the printing office was done by machinery and not as you appear to have understood it as regards the closing of the envelope in Telegraph Offices. The contractors for Government Printing have recently greatly improved the process of gumming envelopes, and it is expected that later on, it will not be necessary for Telegraph Offices to do more than damp the gum before closing the envelopes.

[INCLOSURE].

No. 8032-153.

Government of India, Department of Commerce and Industry.

TELEGRAPHS.

From B. ROBERTSON, ESQ., C.I.E., I.C.S., *Secretary to the Government of India*, to THE CHAIRMAN, *Bombay Chamber of Commerce*.

Simla, the 25th October, 1909.

SIR,

I am directed to acknowledge the receipt of your letter No. 839, dated the 1st of October, 1909, regarding the treatment by the Telegraph Department of telegrams bearing an insufficient address. You ask that further information may be supplied as to the interpretation of what constitutes a sufficient address in the case of non-registration. Much discussion has taken place on this question in the course of the past two months, and letters from some of the principal Chambers of Commerce and Trades Associations have been laid before the Government of India containing the views of these bodies on the whole subject. The Government of India have carefully considered these

representations, and I am now to communicate to you the general conclusions at which they have arrived on the various suggestions that have been made.

2. In paragraph 2 of my letter to the Karachi Chamber of Commerce, No. 5233-153, dated the 20th July, the situation which had arisen consequent on the increasing tendency to curtail addresses and the difficulties with which the Telegraph Department was in consequence confronted were set forth. From the criticisms which have been passed on the orders that were then issued, the Government of India consider that a certain amount of misconception exists as to the functions of the Telegraph Department in respect of the delivery of messages. A staff of messengers is kept at each Telegraph Office, who take out for delivery telegrams as they are received. If a messenger has to spend his time searching for an addressee, as has hitherto been too frequently the case, telegrams accumulate at the Telegraph Office, and the whole system of delivery is thrown out of gear. The case of the Post Office is different; a postman as he goes round his beat, can make inquiries about a doubtful address without inconvenience or delay in his work. But when telegrams have to be dealt with which are sent out individually as received, it is obvious that rapid delivery, such as the improved transmission of messages over the wires demands, cannot be effected, so long as the delivery staff is constantly having to search for addressees whose whereabouts can only be ascertained by looking up directories or by making enquiries in different localities of the place to which the message is addressed. It was this consideration which induced the Government of India to take up the subject of the addressing of telegrams and to insist on a closer observance of the rules in the Telegraph Guide.

3. For the purpose of the matter under discussion, the question of addresses on telegrams may be suitably considered according as the telegrams are for delivery to firms who largely use the telegraph or to persons who receive messages only occasionally. It was in connection with the former of these cases that the Government of India found it necessary to lay down that the full name of the firm should be given in the address or that the system of registration of an abbreviated address should be resorted to. In this respect I am to point out that no new departure was being made by the issue of these orders. Rule 32 (13) of the Telegraph Guide has been in force for many years, and it lays down that registration is essential in all cases of persons who frequently receive telegrams addressed to them by an abbreviated name—as is the case when a single name is used instead of the full designation of a firm—and that Telegraph officials decline to deliver such telegrams if, after notice has been given, the address has not been registered. The view has been pressed upon the Government of India that a well-known firm has the right to have its telegrams delivered by reason of its identity with a particular name. This view the Government of India cannot accept. As stated in paragraph 3 of my letter to the Karachi Chamber of Commerce, the Telegraph Department cannot give preferential treatment to any particular firm by reason of its having an uncommon name. The practice which has been allowed to grow up, notwithstanding the rule in the Telegraph Guide which has been quoted, has given an undue advantage to certain firms as compared with others who registered their addresses, and the former cannot complain if this inequality is removed. The Telegraph Department cannot discriminate between particular firms, and the Government of India must maintain the principle that either an abbreviated address should be registered or, in the alternative, that the full name of the firm or particulars of address or occupation should be given.

4. The Government of India have in this connection considered the question of a reduction of the rate at present charged for the registration of an address, in the case of firms with places of business at several centres. The annual charge for registration is now Rs.10, a rate which is much below what is charged in other countries, being about three-fifths of the rate in the United Kingdom and two-fifths of the rate charged on the Continent of Europe. In view of the lowness of the existing rate, the Government of India have decided that the fee of Rs.10 should remain in force when the number of addressees

registered is 10 or under, for the second 10 addresses the fee will be reduced to Rs.5, and for any number of addresses over 20, the fee will be Rs.3.

5. I am now to turn to the second of the two cases mentioned in paragraph 3 of this letter, namely, the case of persons who do not regularly receive messages and who cannot be expected to register an address. The directions on this subject in the Telegraph Guide, to which a reference is particularly requested, are contained in Rules 25, 26 and 27. These lay down that the address must contain all the particulars necessary to ensure the delivery of the telegram without search or enquiry. For large towns the name of the street and the number of the house must be given, or in the absence of these particulars, the profession of the addressee or any other relevant information. Even for small towns, the name of the addressee must, if possible, be accompanied by additional particulars to guide the office of destination in effecting delivery. On the 11th February last the Director-General of Telegraphs issued a notice which was posted at all Telegraph Offices in India, stating that an address consisting only of the name of the addressee and place of destination without further indication of the identity of the addressees would be considered as failing to satisfy the conditions laid down in the Telegraph Guide and that no special effort would be made to effect delivery of a telegram so addressed.

6. The action that was eventually taken upon this notice, with a view to enforcing better compliance with the rules, gave rise to much public comment, and it appeared that in particular places too strict an interpretation was being put upon the instruction that no special effort would be made to effect delivery. The Director-General of Telegraphs accordingly at the beginning of September enjoined the exercise of greater discretion in carrying out the rules, and directed that in small towns, to which Rule 27 applies, delivery should not be withheld of telegrams intended for persons about whose identity there could be no doubt. And in the case of less well-known persons, if the address gave any indication of identity, besides the surname, reasonable endeavours should be made to deliver. The Government of India consider that these instructions sufficiently meet the requirements both of the public and the Telegraph Department in this troublesome matter. It is for the public to assist the Department by reasonable compliance with what is required in coping with a difficulty which seriously interfered with the rapid despatch of telegraph business. And the Telegraph Department will undertake delivery so long as no doubt can exist as to the identity of the addressee, and no special search or enquiry is necessitated in contravention of Rule 25.

7. A suggestion had been made that instead of reporting as undelivered telegrams which do not contain a sufficient address, a fee should be charged for delivery to be recovered from the addressee. The Government of India are unable to see their way to the adoption of this course, and they believe that the orders which have been issued make it unnecessary to further consider the matter. In the case of firms with registered addresses, delivery will be undertaken even if the address differs from that which has been registered. In the case of persons who do not regularly receive messages, telegrams sent to large towns must be properly addressed. If they are not, the Telegraph Department could not in any case ensure delivery. In the case of such persons living in small towns, if the addressee is well-known or if the address contains particulars which are likely to lead to delivery, the Department will endeavour to deliver. If the address is insufficient, even according to these conditions, the simplest plan is to inform the sender, who can then advise further particulars. The Government of India consider that the prescription of a penalty on insufficient addresses such as has been proposed would only lead to further controversy, and they believe that the attention which has now been called to the necessity for furnishing the Telegraph Department with proper addresses on telegrams and the orders which have been issued for the exercise of discretion in advising non-delivery, will accomplish all that is desired and that it is unnecessary to complicate the question by introducing a condition which might lead to further misunderstanding.

Scientific Officer's Papers.

IX.—LIME.

Of all methods of improving a clay soil, other than by manuring or cultivation, none is more effective than the application of lime. Most especially is this the case when the soil contains less than 1% of this constituent, as obtains in the majority of hill soils in S. India.

Lime is one of the essential plant foods, and if the analysis of any plant is examined it will be seen that lime enters into its composition. It helps, with potash, in the process of assimilation and formation of carbohydrates, and so is chiefly found in the growing shoots and leaves. So little lime is needed, however, for this purpose that almost all soils contain a sufficient quantity of it to supply the needs of the plant.

The beneficial effect obtained from applying lime to soil is due, not so much to its character as a plant food, as to the mechanical and chemical part it plays in the soil. It may be considered, in fact, an indirect fertiliser.

Lime is usually found in nature as Carbonate of Lime, and this is the form in which it occurs in limestone, chalk and shells. When this carbonate is burned in a kiln a gas, called Carbon dioxide, is driven off from it, and a white oxide is left behind which is known as "quick lime."

The chemist finds it convenient to use a symbol for each element, which symbol also represents a certain weight. If Ca is the symbol representing Calcium; C, Carbon; and O, Oxygen, and if these symbols represent weights in the proportion 40 : 12 : 16, the formula CaCO_3 represents Carbonate of lime, CO_2 , Carbon dioxide, and CaO , "quick lime." The action which takes place in the kiln may then be represented by what is known as a chemical equation, thus: $\text{CaCO}_3 = \text{CaO} + \text{CO}_2$ and summing up the weights we see that (40 + 12 + 48) 100 lbs. of carbonate of lime if pure will give (40 + 16) 56 lbs. of "quick lime."

This "quick lime" has several properties which are of great importance to the planter. In the first place it has a great avidity for water. When water is poured on to it, a large amount of heat is given out, and it crumbles up into a fine dry powder called "slacked lime."

If now H is our symbol for Hydrogen, representing a proportionate weight 1, the formula for water is H_2O and of "slacked lime" CaH_2O_2 , our equation being $\text{CaO} + \text{H}_2\text{O} = \text{CaH}_2\text{O}_2$, from which we see that 56 lbs. of "quick lime" give 74 lbs. of "slacked lime." Hence, when carriage has to be considered, it is better if possible to carry lime in the "quick" form than the "slacked," though it is not easy stuff to carry.

In the second place "quick lime" has an avidity for Carbon dioxide, a property shared equally by "slacked lime." Both will absorb Carbon dioxide and go back to the original form of Carbonate from which we started. This is most important and at the root of a common mistake which has been made in Mysore in the method of application of lime in the past. Carbon dioxide is always present in the air, and so if "quick" or "slacked" lime is left exposed for any length of time to the air it will revert to Carbonate.

When lime of any kind is brought into contact with substances containing nitrogen, it will seize on the acids of such compounds and liberate the nitrogen as ammonia gas which escapes into the air and is lost. So lime must never be mixed with any nitrogenous manures, such as sulphate of ammonia, saltpetre, or even poonac, or fish, either outside or in the soil, or the nitrogen will be lost. Between applications of lime and nitrogenous manures a period of at least six months should be left, or a wet season, like the monsoon period.

A further property of lime is that it hastens the rate of decay of organic material and so renders plant food elements more rapidly available for re-absorption by growing plants. It is matter of common observation that leaves, &c., remain long on the surface of soils deficient in lime while they rapidly disappear on soils containing a large amount of this constituent. It is for this reason that lime is used when diseased prunings, fruits, &c., are buried, to cause a rapid decay.

Lime not only hastens decay but also liberates potash and phosphates from their insoluble forms in the soil and supplies them in a suitable condition

for plant food, and this is one reason why it has such a beneficial effect on soils, and acts as an indirect fertiliser, increasing their productiveness.

It also has a marked mechanical effect which is very valuable. It makes clay soils friable and less likely to cake and puddle, and thus it improves the aëration and drainage. In a stiff clay lime agglomerates the fine particles and so facilitates air circulation and affords a free passage to plant roots and promotes the easy percolation of rain, all most valuable aids to tillage operations.

Finally, lime is necessary for the conversion of inert nitrogen of soils to plant food nitrogen by the process of nitrification. This process is brought about by bacteria, and these thrive most vigorously in the presence of lime. With the constant addition of nitrogenous matter, such as leaves, mulch, poonac, &c., to soils deficient in lime there is a decided danger of them becoming acid, in which case bacterial energy will be checked. Lime neutralises and prevents this acidity, and it will be of decided interest to note the effect of systematic applications of lime on leaf disease and black rot.

The best form in which to apply lime is as "slacked" lime; "quick" lime will, as we have seen, take up water and produce too much heat. The great point to remember is that it must not be exposed to the air. If a mulch exists, this should be raked up into heaps round the trees, the lime should then be evenly broad-casted on the surface of the soil, and the mulch then put back over it to cover it from the air. If no mulch exists, the lime after being broad-casted must be lightly broken in so as to cover it with soil. In any case it must never be left exposed, or it will quickly revert to Carbonate and remain on the surface for months and form lumps and cakes. Such cakes on analysis will be found to consist almost entirely of Carbonate. Applied as above the lime will quickly sink into the soil and disappear.

It should be applied in this way at the rate of not less than 2 tons per acre, and the Estate should be divided up into sections, one section being limed each year so as to get round the whole Estate once every five or six years.

In buying lime a guarantee should be obtained that it contains at least 85% of lime, and not more than 4% of magnesia, which is a salt which is distinctly harmful to plants. It should also be in as finely divided a powder as possible and should contain no appreciable quantity of unburned material. As a rule, shell limes are the best, since they are not likely to contain magnesia and often contain potash and other valuable salts obtained from the sea.

In this article lime has been considered only as a fertiliser and nothing has been said about its valuable properties as a fungicide and insecticide. When used for these purposes it is usually applied in the "quick" form, or mixed with sulphur or some other ingredient.

X.—SCALE INSECTS.

Though, unfortunately, most planters are familiar with Scale Insects and the damage they do, I find that many have a very vague idea as to the nature of the insect, its life history, and habits. The following brief sketch may help to make the matter plainer. As many technical terms as possible have been avoided, and only a general account has been given which does not apply to every possible kind of Scale, but is true for the large majority of them.

Scale Insects are a very low form of life and consequently differ a great deal from our ordinary ideas of an insect, and for this reason many people are not familiar with their habits of life.

If a Scale is raised from a leaf, or stem, to which it is attached with the point of a knife it often happens that a small heap of dust, variously coloured, is disclosed. This dust consists of hundreds of minute eggs, and we may follow the life history of the Scale Insect from this point. In just a few species no eggs are produced, but the young when born are minute active insects.

In the former case the eggs hatch out into small insects which are very active, and can travel rapidly along when disturbed. Under a magnifying glass they have the appearance of lice with six legs and a sucking apparatus for a mouth,

It is while in this stage that they spread on a plant. They can crawl several feet from the parent scale on the plant on which they are born, and also over the soil and to another plant. In this way when plants are packed together, or growing close together in a nursery, scales can migrate from one to another, a healthy clean plant becoming infected from a scale-infested one near it. These small insects may also be carried considerable distances by wind or water, or attached to the legs and bodies of birds and similar animals, and so it will be easily understood how it is that scales spread from tree to tree, and district to district. I have little doubt but that in this country young scales are carried from place to place on the fur of game, like deer, sambar and monkeys. An outbreak of a scale like *Lecanium viride* in the middle of a coffee estate hitherto unattacked can be explained in this way.

They can also be easily carried about on the coolies' cumblies. It is often noticeable that coffee trees by the side of a trace, or public road, are the first to be attacked by *Lecanium viride*, and the most difficult to keep clean. This is undoubtedly due to passers by, carrying young scales on their clothes, brushing against them.

The greatest care should be taken not to introduce scales from one district to another. Imported pests are always the worst. They are taken away from a place where the balance of nature is supported by the prevalence of their natural enemies, and put in a congenial place, with no enemies, and abundance of food, and they increase and multiply at an alarming rate, and do any amount of damage. *Lecanium viride* was originally introduced into India presumably, since it is probably a West African scale, and it is admitted that it was introduced into the Nilgiri Hills from the Pulneys. Unless care is taken it will be introduced into some other coffee district with probably equally disastrous results.

To return to our young scale; when one of these active little insects finds a suitable place, it settles down and inserts its sucking mouth parts into the plant and taps the juices upon which it lives. It then becomes fixed and stationary, drops its legs, and grows rapidly larger. From this point the life history of the two sexes is different.

The male passes through a complete transformation, just as a butterfly or moth does; becoming full grown it changes to a chrysalis, and finally emerges as a minute but perfect insect with a pair of delicate wings. These flying males are so small that they are difficult to see, and when they are observed the majority of people do not recognise them for what they really are.

The female scale, after settling down, becomes fixed to one definite spot, and as it grows secretes a waxy substance which forms, with its cast skins, a kind of shield under which it lives. This waxy substance is of various colours and takes on various shapes according to the particular species to which the insect secreting it belongs, and the insect in this form is the familiar "scale" which we so often see covering the trees. What we really see is not the insect itself, but the covering under which it lives, and it is for this reason that "scales" do not appear to those who have not examined them closely to be insects at all.

The adult female scales when full grown finally lay a large number of eggs and then die. The eggs remain for a certain time under the shell and then hatch out, and the young insects escape to settle down in new places. Thus we have reached our starting place again and completed the life history cycle.

The damage done to the plants is due primarily to loss of sap, consequent on the sucking of the vast number of scales. This loss of sap causes a loss of vitality which may actually produce the death of the whole, or parts, of the plant attacked. Plants with a low vitality are always more liable to be attacked by disease than healthy ones, and when the scales reduce the vitality of a plant it often happens that it becomes attacked by other diseases, which perhaps actually kill it, but its death is really attributable to the attack of the scales in the first instance.

Some scale insects excrete a sticky sweet fluid which covers the leaves beneath them, and finally, if they are present in large numbers the whole plant and plants growing underneath, and even the ground. This sweet substance forms a congenial home for a fungus which grows in it and so covers the

whole plant and its surroundings. This fungus is black in colour and it forms a soot-like coating on the plants. It does harm to the plants by blocking up the stomata, or breathing pores, of the leaves and young wood, thus killing them. I have seen coffee killed out by nothing at all but this fungus growing in the excreta dropped by scale insects from the shade tree overhead. Of course if the scale is removed the fungus loses its food medium and so dies.

Many kinds of ants feed on this sugary secretion, and plants attacked by scales will usually be found to be infested by ants of some sort. These ants have learned to take care of, and tend, scales much in the same way as human beings keep and tend cattle. They carry the young from place to place, and in times of inclement weather when the scales would suffer they shelter both young and eggs in their nests. If a nest of the common brown ant is dug up during the monsoon it will be found to be full of young and eggs of scales, which are being protected there, and not used as food as is sometimes erroneously supposed. Hence any scheme of destruction aimed at scale insects must also include the ants which foster them. Lefroy, in his book on Indian Insect Life, quotes the following species as known to keep "ant cattle," which may include scales:—*Oremastogaster dohrni*, an ant which makes globular nests in trees; *Monomorium gracillimum*, a stinging ant; *Tapinoma melanocephalum*; *Iridomyrmex anceps*; *Oecophylla smaragdina*, the familiar red ant; *Acantholepsis frauensfeldi*; *Camponotus compressus*, the common black ant. This list is quoted to show that a large number of different ants play a part in the distribution of scale insects.

Scale insects, like other insects, breathe by means of special orifices, called spiracles, set along the side of the body. Rosin and soap is put into all the spraying mixtures used to kill them in order to form a film over these spiracles which shuts out the air and so suffocates them.

Like most insects also scales have numerous natural enemies. Ladybird Beetles eat them; various small two-winged flies lay their eggs in them and the grub which subsequently hatches out feeds on the scale. On looking over a number of scales with a lens, some dead ones are often found with a small round hole neatly drilled in them. These have been parasitised by one of these flies and through the hole the fly emerged. Again, several fungi attack and kill them in the wet weather, and two of these fungi at least are found killing scales in Southern India.

In several parts of the world attempts have been made to attack scales by means of their natural enemies, by introducing them and breeding them in large numbers. The difficulties in the way of such a method are great, but remarkable success has been attained, in some cases, and it is possible that some similar method of attack may be developed and put into operation in Southern India.

XI.—HOW TO TAKE SAMPLES AND SEND SPECIMENS FOR EXAMINATION.

Soils.

To obtain a fair average sample of the soil in a field for analysis, as nearly as possible equal quantities of soil are taken from not less than four different parts of it. At the places chosen for taking samples the surface is lightly scraped, to remove leaves, mulch, &c., a vertical hole 18 inches square is then dug to a depth of 2 feet, like a post hole. With a sharp spade a slice of soil to a depth of one foot is cut off one side of the hole, and placed on a clean bag. Big stones and big roots should be removed, but not small stones, the size of a pea, or fine roots.

The process is repeated at the other places selected, and all the samples are then thoroughly mixed, big lumps being broken up. After well mixing, about 10 lbs. is placed in a clean canvas bag, which is securely tied up. Such samples should be forwarded in a clean wooden box.

It is important that bags and boxes should be clean.

Care must be taken about the labels. Each sample should be labelled and a duplicate label put inside the bag. Full information should be sent about each sample, stating, elevation, rainfall, depth of soil, nature of sub-soil, surrounding rocks and country, whether land is on a level, or slope, near a river, &c., and the history of the previous manurial treatment of the soil.

The same rules apply to taking samples of a sub-soil.

Manures.

When taking samples out of bags, a number of different bags must be sampled and the samples drawn from different places in each bag; from the bottom of one, the top of the next, the middle of a third and so on. If the manure is in a heap, samples should be drawn in the same way from different places in the heap, not neglecting the interior. The different samples are then thoroughly mixed on a clean bag or floor, and about 2 lbs. finally put in a *clean* bag, labelled and forwarded for analysis.

In the case of mineral fertilisers like saltpetre, nitrate of soda, &c., about 8 ounces is sufficient for analysis and the sample is conveniently forwarded in a *clean, dry* bottle.

Plants.

Plants to be identified should be dried under pressure between sheets of blotting paper, which are changed each day till the specimens are dry. Each specimen should show the whole plant if possible, and always leaves, flowers and fruits. In the case of shrubs and trees, leaves, flowers and fruits must be sent and also a piece of bark. A complete field description should be sent of each specimen, with local name, if possible, colour of flowers, habitat (whether it grows in shade, or open land, &c.), height to which it grows, and it should be recorded whether it grows singly or in masses. (See Sc. O. papers, No. VII, p. 278).

Plant Diseases.

These should be packed so that, if possible, they will arrive in the same condition in which they were collected, and they *must not be externally wet* when they are put up. In some cases the specimens may be dried between sheets of blotting paper under light pressure before they are packed.

Specimens which decay rapidly may be sent in a solution of Formalin, 1 part in 20 of water.

Insects.

If live insects are sent, some of their food plant, which should be *dry*, should be enclosed with them, and also a little crushed paper. Insects found in soil, wood, &c., should be sent in these materials.

Tin boxes should be used for packing, and holes should not be bored in them, or if they are, only one or two and these quite small.

Insects should usually be sent dead. They may be killed in a cyanide bottle, or enclosed under a tumbler with a small piece of blotting paper soaked in benzene. They should be *quite dry* when packed, and are best buried in dry saw-dust with a little powdered naphthalene.

Small insects should be packed with finely shredded paper. *Cotton wool should never be used.*

Butterflies and moths should be enclosed in papers folded into triangular-shaped packets which are packed in a box with crushed paper to prevent shaking.

Scale insects should be packed *quite dry*, each specimen attached to its food plant simply wrapped in soft tissue paper.

General.

In all cases more than one specimen of each kind should be sent, if possible 4 or 5.

Every specimen should be clearly labelled, so that there can be no possible mistake. The label should bear a number referring to a description in the covering letter.

Full particulars about all specimens sent must be recorded.

All specimens should be sent to

THE SECRETARY,

The United Planters' Association of Southern India,
BANGALORE,

to ensure their being promptly attended to upon arrival.

(Signed) RUDOLPH D. ANSTEAD, *Scientific Officer*,

DISTRICT PLANTERS' ASSOCIATIONS.

Central Travancore Planters' Association.

Proceedings of the Quarterly General Meeting held at Stagbrook, on the 23rd October, 1909.

Present.—Messrs. J. A. RICHARDSON (*Chairman*), W. H. G. LEAHY, F. E. THOMAS, J. D. DEANE, T. A. VERNON, F. BISSETT, R. P. ROISSIER, T. A. KINMOND, C. G. GORDON, J. F. FRASER, H. C. WESTAWAY, B. WOLDE, H. V. TAYLOR, D. MCARTHUR (by his proxy W. H. G. LEAHY), F. HODDING (*Assistant Superintendent, Cardamom Hills*), ANDERSON and HAIG (*Visitors*), and T. C. FORBES (*Honorary Secretary*).

The Chairman briefly welcomed the visitors.

The Minutes of the last Meeting were confirmed.

Report of the Delegates to the U. P. A. S. I. Meeting.—Mr. F. E. THOMAS: Mr. Chairman and Gentlemen,—I attended the U. P. A. S. I. Annual Meeting at Bangalore on 9th August, 1909, as your representative.

The Meeting was a long one and lasted for five days, twelve District Associations were represented by nineteen delegates. You all have the Book of Proceedings, which you have already read, so you know as much about the Meeting as I can tell you, and I will only briefly comment upon the subjects about which you gave me special instructions.

The Theni Bridge.—This seems as far off as ever; as instructed, I brought up the subject and accordingly proposed a Resolution, which was passed. It is now more than ten years since the Resolution has been upon the Agenda, and still the bridge seems as far off as ever we can but still keep on agitating and may in time get the bridge.

The Kumili Ghât Road was also included in this Resolution, and were both seconded by Mr. Richardson, who added some most suitable remarks on this and the state of the road between Ammayanayakanur and Peermade, pointing out the good condition of the road between Ammayanayakanur and Kodaikanal Tope bungalow. The comparison of which shows how other portions of the road over which officials do not frequently travel, is starved and allowed to get into a deplorable condition for want of repairs and ordinary upkeep. I may mention that unnecessary expenditure is now being incurred in making the road between Ammayanayakanur and Periakulam broader.

Non-transmission of Registered Articles by Night.—I put before the Meeting the circular issued by the Superintendent of Post Offices, Madura Division, pointing out the very great inconvenience the District was put to, and I therefore moved a Resolution, which was passed.

Scientific Officer.—Mr. Anstead, the Scientific Officer, attended the Meeting and gave us a most interesting address, chiefly upon leguminous crops as green dressings, which has appeared in full in the Book of Proceedings.

Mr. Anstead has not been round this District yet. A programme of his visits will be drawn up shortly, and he will visit each District, if possible, at the time of year when pests are most prevalent. It is unfortunate that most of the Districts wish him to come as near as possible during the same month, as it is impossible for him to be in more than one place at the same time. I cannot say what final arrangements will be made.

Labour Problems.—This subject was a lengthy one and lasted for the best part of two days.

Act I of 1903 was discussed at length, its main advantages and disadvantages, which are all gone into at length in the Book of Proceedings. Some of the delegates were sent from their Associations with instructions to vote against the Act.

I must say after hearing the arguments for and against the Act, and going up strongly against it, my opinion is now quite changed. This subject will come up for discussion to-day, so I need not comment upon it now. Mr. Brock set his Registration Scheme before the Meeting, which is a large one and well drawn up, but was not freely discussed by Members.

Planters' Benevolent Fund.—Mr. Richardson brought forward this subject, which requires no words of recommendation, and is one which ought to have

the support of every Planter, Company, Private Proprietor and Coast Agent in South India.

The Fund is on somewhat the same foundation rules as the Ceylon Benevolent Fund, which works well and is the greatest boom to so many.

Gentlemen, as we have a long agenda before us to-day, I will not take up the time in repeating what appears in full in the Book of Proceedings.

We have to congratulate ourselves on Mr. Richardson, our worthy Chairman, being elected as Chairman of the U. P. A. S. I. for this coming year.

Thanking you, Gentlemen, for sending me as your Delegate, and with your consent I will resume my seat.

Mr. Leahy proposed and Mr. Fraser seconded a vote of thanks to Messrs. Thomas and Bissett for their services as Delegates.

Power Transport.—The CHAIRMAN: Gentlemen,—This is a matter that has been before us for some time and one which is of the utmost importance to this District as well as to Mundakayam.

Early in the year we advertised for tenders for this and supplied particulars to several applicants on the matter with the result that we have now two schemes before us for consideration. Both these schemes have been discussed in Committee, and I think the general opinion is at present neither of the schemes as they stand could be accepted and would have to be considerably modified and very carefully gone into before we could bind ourselves to one or other.

In one we are asked to bind ourselves for a term of 10 to 20 years, which of course is quite out of the question. The rates I think are excessive and the charge of 10 % on the gross earnings to the Managing Agents is also out of the question.

In the other we are asked to put our shipping through them and pay for the loading and unloading of produce. The former I don't think we could agree to and the latter I think must be included in the rates quoted. On paper both schemes (although one quotes much lower rates than the other), show a very fair profit, but I think both applicants have overlooked the growing importance of Mundakayam District, which even now is a large factor in the scheme and within the next few years must become a very important one. Both these schemes have been based on Peermade traffic alone, and no allowance made for Mundakayam, which I think is a mistake. We have representatives with us to-day from both the applicant firms, and I would ask them to consider the matter again and address the Special Committee, which must be formed jointly with Mundakayam to discuss the matter fully and we will address them stating our objections to the present tenders.

Before appointing a Special Committee, however, I think it would be as well to hear what replies have been received from Home Agents and Proprietors regarding the proposed scheme for traction transport in which I think it was agreed at our last Meeting should be procured.

I must point out that whatever scheme we decide on it must take some months to inaugurate and no delay should be made if we are to get it in working order before next monsoon. Personally, I think it must be a Company to work satisfactorily and we must have a certain amount of say in the management, but whether we can persuade owners to take sufficient holding to give us that say, is a question that must be gone into.

Mr. Richardson for South Indian Tea Estates.

Mr. D. McArthur by his proxy W. H. G. Leahy.

Mr. Leahy for Carady Coody Estate.

Mr. Bissett for Penshurst Estate.

Mr. Wolde for Arnakal Estate.

Mr. Roissier for Fairfield Estate.

Agreed that some form of power transport was necessary with a general proviso that it did not cost more than the present cart transport.

Proposed by Mr. Westaway and seconded by Mr. Thomas :—

"That the following are appointed as Special Committee to represent Peermade: Messrs. Richardson, McArthur, Leahy, Bissett and Honorary Secretary."—*Carried.*

Madras Planters' Labour Act, 1903.—The CHAIRMAN: Gentlemen,—This is one of the most important items on our Agenda to-day. You have no doubt all read Mr. Gompertz's speech at the Meeting of the Shevaroy Planters' Association and Mr. Brock's able reply in last night's paper.

I am inclined to sum the whole matter up in the last paragraph of Mr. Brock's letter, excepting the last clause.

"Act I may be a bad dog, but it is foolish to try and hang him on the old false accusations. I am not keen on him myself, but I want to see fair play in the evidence given."

Here I stop, as I am not prepared to say he is an old friend of mine:

The three years I have been your representative at Bangalore, my hands have been tied like several other Delegates, and it was for this reason I proposed the Resolution passed at the last U. P. A. Meeting: It is quite time we come to some definite decision on the matter, and you are now asked to send in your vote for or against the introduction of the Act generally throughout Southern India.

If you have read the Book of Proceedings of the Bangalore Meeting you will have seen the arguments put forward in favour of accepting the Act, one of the chief arguments being that unless we all took up the Act we could not expect Government to listen to our requests for amendments.

I took little part in this discussion as my instructions did not allow me to, but after listening to Mr. Hodgson and Mr. Romilly, I could not help asking the question that if we all accepted the Act was there any guarantee that Government would make the amendments asked for. Mr. Hodgson replied that there could be no such guarantee, but that he thought the Government of Madras did say they were prepared to make certain amendments to the Act. Judging from the treatment we have received from Government over the Theni Bridge, I do not think this is good enough, but it rests with you to decide. You have all had copies of the Act to study during the last 10 days or so, you have the discussions that took place at Bangalore as well as what has been written on both sides in the papers since, and it rests with you to record your vote either for or against the introduction of the Act in Southern India.

Mr. THOMAS: Gentlemen,—Most people have formed their ideas upon Mr. Gompertz's letter in which he comments only on the main disadvantages of the Act. He does not comment on the advantages of the Act and so he has led many astray.

After some discussion the following Resolution was passed:—

Proposed by Mr. Leahy and seconded by Mr. Fraser:—

"That this Association, while believing that a Labour Act based on the principles of Act I of 1903 is necessary, is of opinion that the present Act is quite unsuitable to this District and should not be introduced into Travancore."—*Carried.*

European Medical Officer Scheme.—Report of Special Committee has not yet been received.

Sri Mulam Popular Assembly.—Mr. H. C. Westaway was appointed Delegate and kindly consented to act. The two subjects taken up are:—Criminal Cases and Motor Transport in Travancore and in particular between Kottayam and Mundakayam.

Planters' Benevolent Fund.—From the CHAIR: Gentlemen,—This is a matter which requires no words of mine to recommend it, and I trust it will have the unanimous support of this District.

The Rules you have in the Book of Proceedings and I would ask you to pass them as they stand. They have been carefully drawn up by the U. P. A. Meeting and are very elastic in their powers.

If you begin to alter them now we will probably find ourselves where we are with Act I, all at sixes and sevens.

I can assure you that we spent some hours over them at Bangalore and all the delegates gave the matter their undivided attention.

I think it is a Fund that, if properly worked, will be of the greatest benefit to the Planting community, and though I hope no one in this room will ever require its help there is no saying what may happen in the future.

One argument which has been brought forward is that it may relieve Companies of their responsibility should any of their employees fall on bad times, but I do not think any decent Company who have Rules for sick-leave, &c., would take advantage of this to evade their liability.

The Fund is primarily to help distressed Planters and tide them over bad times or help their widows and children should they be left in straitened circumstances, which is sometimes the case.

I trust, Gentlemen, with your usual generosity, you will give the Fund a good start, as its success entirely depends on its raising a good round sum to begin with.

We must appeal to Proprietors and Companies at Home as well as to Agents out here, and I feel sure if we only give them the lead our appeal for such a deserving object will not be in vain.

Rupees 220 was subscribed by Members present.

Price of Rice.—*Resolved*—that the weekly notice of price of rice by post-card be discontinued.

The Chairman.

Theni Bridge, Ammanayakanur-Kumli Road and Postal Arrangements.—I will take these three items as one, as any action we take on any of them must go through the same channel.

The Theni Bridge, I'm afraid, you are all sick of hearing about, but Government seemingly are not, otherwise they would have built the bridge. In October last His Excellency the Governor in Council stated that Government would be prepared to consider any proposal which the District Board of Madura might put forward for the construction of a bridge over the Theniar at a point on the contemplated alignment of the proposed railway, the bridge being built on a design suitable to adaptation both to rail and road traffic. In the event of the railway construction being indefinitely delayed the bridge would be available for cart traffic.

In February last the President of the District Board wrote saying that Rs.30,000 had been estimated for the work and that the District Board had allotted Rs.15,000 for the work to start with. In the face of this and His Excellency's statement we naturally thought that the work would shortly be commenced, though he qualified his statement with the provision that should funds be available. We are now told that the estimates have not been sanctioned, so we are no further favoured than we were when we first asked for the bridge 18 years ago. Funds don't seem to be short, however, as the District Board gaily wasted lakhs on an attempted cart road to Kodai., known as the Attur Ghât road, which proved an absolute failure, and have now sanctioned a further sum of Rs.3 lakhs, I believe, to make another attempt to cut a road from Davanampatti near Battalagunda. A Special Engineer has been appointed for the work and the expenditure to date, I believe, is Rs.600 worth of quinine, which sounds as if they probably expected to hurry a good many coolies over the job.

I think it is most unreasonable that all this money should be wasted on a road which is to benefit so few when there are 47 miles of existing road carrying the heavy traffic it does sufficient as has been proved to make a railway pay and which is in a most disgraceful state and at one point owing to the want of a bridge absolutely dangerous to life and property. I have had occasion to cross the Theni twice during the last week, and in both cases had to have a gang of coolies to practically carry my bandy over, to say nothing of delay. There were strings of carts hung up on either side, most of them loaded with Tea, and one could see from those that were being practically floated across where the water had been lapping 2 to 3 inches over the body of the cart, the chests were all wet and the state of the contents can

best be imagined. I interviewed several of the leading merchants in ten villages as I came along, and it was the same old story.

The Engineers don't care anything about the road west of Periyakulam.

It is true they are metalling part of the road now, but on the whole work which extended for some miles I did not even see a native Overseer in charge, and the coolies seemed to be taking things very easy. I hope our Planting Member will take up the matter of the Theni Bridge, and convince the Madras Government the necessity of investigating the expenditure on this section of the Madura District Board's roads.

As regards the Kumli Ghât section we have been informed that this part of the road has been handed over to the Public Works Department and there is a rumour that an entirely new road is to be cut. If this should be the case, I can only say it is due to the absolute neglect on the part of the Madura District Board, as had the present road, which is quite a good trace, been kept in reasonable repair, such heavy expenditure would not be necessary.

Postal Arrangements.

These are most unsatisfactory, owing to the bad state of the roads and the inability of the Police to keep order and stop the dacoities, which have become a scourge to the District.

This matter, however, is having the attention of the Madras Government, and I hope will soon be put right.

I would propose the following Resolution:—

"That this Association ask the Planting Member to again impress on the Madras Government the necessity of the Theni Bridge, the bad state of the road between Periyakulam and Kumli which prevents the Mails being carried by jutkas, and also the inability of the Madura District Board to keep law and order in this part of their district and that we would suggest that a Force of Punitive Police be located along the road invested by dacoits."

Seconded by Mr. W. H. G. Leahy and *carried*.

Correspondence.

Criminal Cases.—READ letter of 9th October from Mr. E. Jacob John, Vakil, High Court.

Resolved that the Committee instruct Mr. Westaway on this subject for the Sri Mulam Popular Assembly.

Legislative Council.—READ letter dated 9th October, 1909, to the Resident in Travancore and Cochin.

Kodimatha Landing Stage.—READ letter No. 1083, dated 14th and 15th September, 1909, from Executive Engineer, Mr. Wolde, informed the Meeting that passing through Kottayam a few days previously, the shed was available for shipping produce.

Recorded this Association's thanks.

Fairfield Liquor Shop License.—READ correspondence.

Resolved that this Association could do nothing in the matter.

Scientific Officer.—Mr. Kinmond stated that he had written on two occasions to above officer, but had not been favoured with a reply.

Mr. J. D. Dean's Resolution was then put to the Meeting and seconded by Mr. F. E. Thomas and *carried*.

"That it be pointed out to His Highness's Government the very urgent necessity of a Hospital at Kumli."

Balance-sheet to end of September, 1909, of Fitter and Forge Account, was laid on the Table.

With a vote of thanks to the Chairman the Meeting closed.

(Signed) T. C. FORBES, *Honorary Secretary*.

Mundakayam Rubber Planters' Association.

Minutes of the Fourth Quarterly General Meeting held at Paloor Bungalow, Mundakayam, Travancore, at 11 a. m., 30th October, 1909, preceded by a Special Committee Meeting at 10-30 a. m.

Present:—Messrs. J. A. RICHARDSON (*Chairman*), H. C. WESTAWAY, R. HARLEY, J. J. MURPHY, J. R. VINCENT, G. ATKINS, F. G. KNAPP, A. HAMOND, A. E. VERNEDE, C. W. E. VERNEDE, K. E. NICOLL (*by proxy*), and R. E. HASLAM (*Honorary Secretary*).

Visitors.—Messrs. G. H. LEAHY and J. F. FRASER.

1. Proceedings of last Meeting were taken as read and were confirmed.

2. The Bangalore Delegate's Report given by the Chairman was approved and read as follows:—

GENTLEMEN,

I do not intend to take up your time with a long report on the Bangalore Meeting as this year the Book of Proceedings has already been in your hands for some weeks and you have no doubt studied its contents.

Mr. Nicoll and I attended as your delegates, but Mr. Nicoll unfortunately had to leave before the end of the Meeting. I will only touch briefly on one or two of the subjects which were of interest to our Association and will come up for discussion here to-day.

Scientific Officer.—Mr. Anstead gave a most interesting lecture on the use of Leguminous crops as green dressings which is a matter of great interest to us in Mundakayam.

A good deal of discussion took place on this subject which you have no doubt read, but I hope Mr. Anstead will visit our district in the early part of next year, when you will have an opportunity of going into the matter with him personally and showing him the results of any experiments that have been made.

Labour Problems.—This took up most of the time of the Meeting and led to some lengthy discussion.

I do not intend to enter into these here, but cannot pass over without notice the elaborate scheme worked out by Mr. Brock for the registration of all labour.

Mr. Brock deserves great credit for the way he worked out his scheme and especially the thanks of the delegates for having drawn their attention to a certain extent from existing labour troubles.

As regards Mr. Brock's scheme, I think we are all of opinion that it is very well thought out and must have cost him a lot of time and trouble, but in its present form is much too cumbersome.

As regards Act I, as you have seen, there was a good deal of discussion, but as usual we were tied hand and foot, as the majority of delegates were not instructed on the matter, and others were at the old game of sitting on the fence.

It was on this account I proposed the Resolution asking Associations to record their votes either for or against the Labour Act before the end of November, so that we can come to some definite decision on the matter.

You have seen the arguments for and against the Act brought forward at Bangalore, and have no doubt read all that has been written in the papers since.

Mr. Gompertz's speech which has been circulated went fully into the matter from his point of view and Mr. Brock's able reply in the *Madras Mail* give you all the main points. You have had the Act itself to study and it will rest with you to-day to record your vote for or against its introduction into Travancore.

Cattle Diseases.—This matter was taken up by Mr. Barber of the Nilgiris, and I had much pleasure in seconding his Resolution on the matter.

We had some experience last year of Rhinderpest which completely upset our transport arrangements, though it probably affected Peermade more than Mundakayam at that time.

I think both this Association and Peermade were very much to blame for not drawing the attention of the Travancore Government to the matter as we would no doubt have stamped out the disease much quicker had cattle all been inoculated.

Planters' Benevolent Fund.—This Fund was inaugurated this year and a set of Rules drawn up and I will have the support of everyone as it deserves.

I will not go further into this now as it comes up later on our Agenda.

I think, Gentlemen, this covers all the points which directly concern our Association.

• If there are any points I have missed, or any one wants more information on, I will be very glad to answer anything I can.

3. *Madras Labour Act I.*—Proposed by Mr. Harley, and seconded by Mr. Atkins: "That this Association is not in favour of the introduction of the Madras Labour Act I into Travancore."—*Carried unanimously.*

4. *The Planters' Benevolent Fund.*—This subject was brought before the Meeting by the Chairman who, in the course of a few remarks, mentioned that with a lead given by Members of the Association, we might hope that an appeal towards the support of the Fund to Proprietors and Companies at home would be responded to.

Rupees 280 was raised in the room.

5. *The Lady Ampthill Nursing Institute.*—It was announced by the Honorary Secretary that the Rs.100 promised at the last General Meeting had been received, and he was instructed to forward this amount to the Institute.

6. *Exhibition Fund.*—Proposed by Mr. Murphy: "That the balance to the credit of the Exhibition Fund be distributed to the several Associations as per the accounts laid on the table."

Seconded by Mr. Westaway and carried.

7. (a) *Motor Transport.*—Proposed by Mr. Westaway: "That the Peermaad and Mundakayam Motor Transport Committees do formulate a scheme in connection with above to bring before their separate Associations."

Seconded by Mr. Murphy and carried unanimously.

(b) *The Medical Officer Scheme.*—Proposed by Mr. Westaway: "That the Peermaad and Mundakayam Medical Officer Committees do formulate a scheme in connection with above to bring before their separate Associations."

Seconded by Mr. Murphy and carried unanimously.

It was decided that the Committee Meetings be held at Carady Coody on November 7th.

8. *Resolved*—"That Mr. Vincent, the Delegate to the Sri Mullam Popular Assembly, be asked to take up the subjects of the Punalur-Mundakayam and Punjat roads, and that instructions regarding the Mundakayam Hospital accommodation be given him later."

9. *Royal Trees on Rubber Estates.*—*Resolved*—"That Mr. Vincent be instructed to take up the matter of measurements of these privately with the Dewan and the Conservator of Forests."

10. *Carried unanimously.*—"That Mr. Everard be thanked for his courtesy always shown in connection with his work."

11. Proposed by Mr. J. J. Murphy: "That Mr. C. Vernede be asked to draft Rules for Malayalee labour to be considered at the next Meeting."

Seconded by Mr. Vincent and carried.

12. Resolution proposed by Mr. C. W. E. Vernede: "That the Honorary Secretary be instructed to write to the District Magistrate, asking that when warrants are served on Estate coolies they should be served through the Superintendent."

Seconded by Mr. Harley and carried.

With a vote of thanks to the Chairman the Meeting terminated.

(Signed) R. E. HASLAM, *Honorary Secretary.*

Anamallai Planters' Association.

Proceedings of an Extraordinary General Meeting of the Anamallai Planters' Association, held at Paralai Bungalow, on Monday, the 8th November, 1909.

Present.—Messrs. C. R. T. CONGREVE, H. W. DeSALIS, G. L. DUNCAN, R. F. LUSHINGTON, G. A. MARSH, A. H. SHARP, E. W. SIMCOCK, and C. H. BROCK (*Honorary Secretary*).

By Proxy.—Messrs. T. STANES & Co.

Visitor.—Mr. E. M. MOSS.

Mr. G. A. Marsh was voted to the Chair.

Mr. A. H. Sharp was elected a Member of the Association.

1. *Proceedings of Meetings*.—The Proceedings of the Annual General Meeting held on 28th July, 1909, and the Meetings of the General Committee held on 20th September, 1909, and 18th October, 1909, were confirmed after previous circulation.

2. *Revision of Rules*.—The Meeting went through the proposed New Rules of the Association; and each Rule was read out and proposed from the Chair.

RULE 7.—Mr. Duncan proposed as an amendment, and Mr. Simcock seconded, "That the old Rule No. 4 with reference to the election of the Committee be retained." After considerable discussion the amendment was put to the vote and was lost by 23 votes to 26. The New Rule was then proposed from the Chair and carried by 26 votes to 23.

RULE 33.—The following amendment was carried unanimously:—Delete the last word "Committee," and add "unanimous vote of the Committee."

RULES 36, 37, 38 and 39.—After considerable discussion it was unanimously resolved that no reference to Labour Rules and Rates for work should be embodied in the Rules of the Association. These four Rules were therefore struck out.

No alterations were made in any of the other proposed Rules, and, with the above amendments, the Rules were finally passed *en bloc*.

3. *Places of Meetings*.—It was resolved to hold the Association Meetings at the six principal Bungalows in the District in turn.

4. *Labour Rules and Rates*.—The Meeting instructed the General Committee to revise these again, and to bring them up for ratification at the Annual General Meeting in February next.

5. *Correspondence*.—

(a) *In re. Coffee-stealing*.—The correspondence with the Police was read and confirmed. The Honorary Secretary was instructed to write to the Sub-Inspector of Police, on Coffee Special Duty, with reference to the days on which Coffee is generally despatched, and also to the Superintendent of Police to point out where special patrols are most needed. The Honorary Secretary was also instructed to convey the thanks of the Association to the Superintendent of Police and his subordinates, for the interest that they are taking in this matter.

(b) *Telegraphs*.—READ letter from the Director-General of Telegraphs, dated 14th October, 1909, informing the Association that its suggestions will receive attention.

6. *Labour Legislation*.—

(a) *Act I of 1903*.—The following Resolution was moved from the Chair:—

"That this Association is opposed to the extension of the provisions of Act I of 1903 to the Anamallai District.—*Carried nem con*."

(b) *Registration*.—The following Resolutions proposed by Mr. Congreve and seconded by Mr. Duncan were carried unanimously :—

- (1) "That this Association deplores the attitude taken by some District Associations in not seriously considering the subject of recruiting for labour, because of the present friction as regards Labour Laws. It urges again the absolute necessity for regulating present recruiting conditions and for removing the abuses continually rising therefrom, and in doing so again emphatically declares that Recruiting for Labour has nothing whatever in common with Laws providing for the punishment of defaulters, and must therefore be considered as a separate measure and not mixed up with existing Acts in the manner it has been, as shown by the Proceedings of some Associations."
- (2) "That the Secretary of the U. P. A. S. I. be requested to ask for answers from all District Associations to the following questions :—
 - (a) "'Does your Association consider that the present conditions of recruiting labour, for both inland and foreign work, to be entirely satisfactory?'"
 - (b) "'If not, will your Association formulate a better suggestion for regulating *all* recruiting for labour than that put forward by the Anamallai Planters' Association?'"

7. *Local Fund Board*.—Mr. G. A. Marsh was unanimously voted to represent the Association on the District Board, Coimbatore.

8. *Leases*.—The Honorary Secretary was instructed to write to the Collector to ask for information, as regards the continued delay in issuing leases.

9. *Proposed Hospital*.—READ letter from the Government of Madras, dated 2nd November, 1909. The Honorary Secretary was instructed to write to the President of the District Board, to again urge the Board to establish a Hospital in the Anamallai Hills.

10. *Warrants*.—The Honorary Secretary was instructed to write to the District Superintendent of Police with reference to the constantly re-occurring cases of non-service of warrants.

11. READ letter to the Hon'ble Mr. J. G. Hamilton, dated 22nd October, 1909, and his reply dated 28th October, 1909.

12. *Chuttrams*.—The Honorary Secretary was instructed to write to the Collector to re-open the subject of the establishment of a Chuttram and Public Bazaar, as was suggested in 1904.

13. *The U. P. A. S. I.*—READ and recorded Circular No. 86, with reference to the history of Planting Districts.

14. *Liquor Shop*.—The Meeting resolved to adopt the proposal of the General Committee for the establishment of a Liquor Shop strictly under the control of the Association.

Two dissentients to this proposal were recorded. The Honorary Secretary was instructed to write to the Collector again requesting an early reply to his former letter on the subject.

A vote of thanks to the Chair terminated the Proceedings.

(Signed) G. A. MARSH,
Chairman.

(Signed) C. H. BROCK,
Honorary Secretary.

INDIAN TEA ASSOCIATION, CALCUTTA.

Extracts from Proceedings of a Meeting of the General Committee held on the 19th October, 1909.

*Correspondence with the Indian Tea Association (London).—*Letters of 24th and 30th September from the Secretary, Indian Tea Association (London), which had been previously circulated, were now ordered to be recorded. The principal subjects dealt with were as follows :—

- (a) *London Conditions of Sale.*—It appeared that representatives of London buyers had suggested that in clause 9 of the conditions of sale the following words should be added :—

"The Arbitrators and Umpire should have power to award damages against either party."

The Ceylon and Indian Committees in London had considered this suggestion but had come to the conclusion that the proposed alteration could not be agreed to.

- (b) *Abducting of Coolies to Hill Tipperah.*—With his letter of 30th September Sir James Buckingham forwarded copy of a letter addressed to his Committee by Mr. Robert Hart. It referred to the leakage suffered by gardens in consequence of coolies being attracted across the border to Hill Tipperah. Mr. Hart put the number that had thus been lost to the industry at not fewer than 30,000. In a letter which he had received from Sylhet it was stated that to get such coolies back was impossible and that it was felt that nothing short of the annexation of Independent Tipperah would ever be of avail.

At a recent Meeting of one of the Sub-Committees of the Surma Valley Branch this subject had been referred to and the Sub-Committee had arranged to submit a representation to the Government of Eastern Bengal and Assam regarding it. The General Committee had at the time requested that they might be informed of the result of this reference, and it was now agreed to enquire whether any reply had yet been received from Government.

- (c) *Port of London Dues.*—Reference was made in the Proceedings of last Meeting to the fact that the proposed river due on tea in London had been engaging the attention of the Committee of the London Association. A copy of a Resolution which had been adopted and forwarded to the Secretary of the Port of London Authority accompanied the letter of 30th September. The Resolution was in the following terms :—

"That the maximum Port rate on Tea should not exceed 1/- per ton, and provision should be made, in the case of any tea being subsequently re-exported, that it should be exempt not only from export rates, but also that a rebate of the Port rate already levied should be granted; that the maximum rate for Coffee and Cocoa should be the same as Tea, and for rubber it should not exceed 2/6 per ton; also that the rates should be levied on the net weight."

- (d) *Tea for Russia.*—A copy of a circular issued by Messrs. Ewart, Maccaughey & Co., Ltd., London, had been forwarded. It referred to a statement made by some of the Calcutta circulars to the effect that Russian buying at home had practically stopped, and mentioned that such a statement was not borne out by facts. As a matter of fact, the operations on the London market of the leading export houses had, it was stated, for some time past run into thousands of packages per week.

The General Committee were not aware of what circular was here referred to, but they did not consider the matter one of great importance.

It was pointed out that from a letter which had recently appeared in a Calcutta newspaper it seemed that statements made in a circular issued in London had been similarly taken exception to by tea brokers in Calcutta.

British Import Duty on Tea.—A letter of 24th September from the Secretary of the Anti-Tea-Duty League was to be recorded. It forwarded a copy of the official report of the Debate on the Tea Duty in the House of Commons on the 23rd of September.

Assam Branch.—The Proceedings of the Assam Branch for September were to be recorded. In the Proceedings there was printed a copy of a notice issued by the Traffic Manager of the Assam-Bengal Railway to the effect that Messrs M. David & Co., Chittagong, would carry tea from that place to New York direct at Rs.42-6 per ton of 50 cubic feet and to Boston direct at Rs 45 per ton of 50 cubic feet, subject to a rebate of Rs.2-6 per ton. A schedule of through rates from Chittagong to various points in the United States and Canada was annexed and it was stated that there would be a steamer loading during September, October, November and December.

United Provinces Exhibition, December 1910.—With a letter of 11th October from the Deputy Director of Agriculture, United Provinces, there had been received copies of the preliminary prospectus and other papers in connection with the Exhibition to be held at Allahabad in December 1910. The co-operation of the Association was invited in securing a representative exhibit so far as tea was concerned. As the papers had, it was understood, been also forwarded to the Tea Cess Committee it was agreed that no action on the part of the Association was necessary.

Scientific Department.—(a) *Mosquito Blight.*—With a letter of 8th October Dr. G. D. Hope, the Chief Scientific Officer of the Association, forwarded a report by Mr. C. B. Antram, the Association's Entomologist, on the Mosquito Blight experiments during the six weeks ended 30th September. Mr. Antram stated, Dr. Hope pointed out, that the Blight had not been as bad as usual up to date in Sylhet and Cachar this year, and that although it had been held in check on all those pieces of tea which were being treated under his supervision, it could not yet be said whether this was due entirely to spraying or to climatic influences as well.

It was agreed to publish the report as an Appendix to these Proceedings.

(b) *Disease in Nurseries.*—With a letter of 13th October, Dr. Hope forwarded a report on the disease which as affected seedlings in nurseries on tea gardens in Upper Assam during the present season. He suggested that it should be published for general information and it was agreed that this should be done. The report contained several diagrams illustrating the disease.

(c) *Heeleaka Experimental Station.*—There is annexed to these Proceedings a copy of a report regarding the work done at the Heeleaka Experimental Station during the month of September.

APPENDICES.

(a) *Report of Mosquito Blight Experimental work for the six weeks ending 30th September, 1909.*

The current year, to the middle of August, has been marked by having been generally an unfavourable one for the tea mosquito. Comparatively little blight had been recorded (the Terai excepted) up to that date, for which a reason can safely be found in the abnormal weather conditions which prevailed in the earlier months of the year—long spells of drought followed by continual rain going a long way towards killing off the insects and preventing their rapid increase. Scarcity of mosquito consequently interfered with the special experiments which are being carried out this season, in that it had been difficult to gauge the efficacy of our methods earlier than the latter part of August because, until recently, there had been no very marked difference between the treated and untreated areas. As soon, however, as September

arrived, blight became more general and reports to hand show that it is serious in some gardens. I anticipate therefore that at the end of the season we shall have plenty of opportunities of comparing the treated and untreated gardens, and as this Report will show, certain gardens that have received practically no treatment, and others that have not been treated at all, are now being attacked by the blight, and the attack will probably increase, while each of the experimental gardens adjoining, or in the same neighbourhood are, without exception, practically free.

At Rampore Tea Estate, Cachar, conditions have not altered since the last report, dated August 15th was written, blight having been kept entirely in check.

A few weeks ago insects appeared on certain small patches and caused some anxiety, but these areas were thoroughly and repeatedly treated by spraying and hand collecting, with the result that spreading of the blight has been checked and the affected bushes are continuing to flush. The blighted areas are small and there has been practically no loss of leaf up to date. On the 19th September the Acting Manager of Rampore Tea Estate wrote:—

"Blight is on the increase: we are spraying every day now and keeping it isolated to little patches. At Salganga (this is a part of the Tikulpar Tea Estate on the Khumbir plateau) every China bush is shut up with it worse than last year now. I went there yesterday and was surprised to see the damage done in so short a time."

It may be mentioned that the above particular piece of tea received treatment (spraying and hand collecting) earlier in the season and good flushes were obtained. During the past two months this piece has been in jungle and methods of treatment have been abandoned and blight has obtained the upper hand entirely. The area closed is about 100 acres.

At Ghazipore Tea Estate, Sylhet, the blight has increased slightly during the past month, but not seriously and no patches have turned black. Spraying and catching is continued daily. Reporting later the Manager remarks that there is no increase of blight and practically no loss of leaf to date. A neighbouring garden to Ghazipore, where nothing has this year been done to check Mosquito Blight, has been affected in several parts, but compared with last year the attack is not severe at present. I anticipate that in another week or two a very different report will come from this garden and I am making a special visit to Sylhet next week for the purpose of taking comparative notes.

At Koombergram Tea Estate, Cachar, from the first week in September Mosquito Blight has increased considerably, and in the third week 71,750 insects were caught, but during the past few days it does not seem to have spread any more. Besides catching the insects, five to six spraying machines have been in continuous use applying soap solution and the work has never been stopped. The section (late pruned) on the jungle edge showed a little mosquito about the middle of the month, but it is not bad. The section in question had been black and closed for years back by the middle of August. Gardens immediately bordering on the Koombergram show little or no blight.

At the Cheria Valley Tea Co.'s Garden, Martycherra, blight is active on the hybrid sections. There is very little change in the conditions on this garden since the last report. Catching and spraying have been going on steadily.

At West Jalinga Tea Estate, Cachar, Mosquito Blight increased somewhat in September. One of the experimental plots is practically free from blight, but the other plot has about one acre rather badly affected along the jungle edge. The affected piece is receiving special attention.

KANNY KOORI,

4th October, 1909,

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(Signed) C. B. ANTRAM,

(b) Report of the work at Heeleaka during September.

(1) *Garden work.—Hoing.*—The third round of light hoeing was started at the beginning of the month, and has been completed, and the fourth round is now in progress.

Forking.—The clearance was forked in the middle of the month and is now in clean condition.

Manuring.—The last application of oil-cake and sterilized animal meal respectively has been given to those plots which are being treated with these manures in divided doses. These plots are receiving six maunds of sterilized animal meal respectively in three applications. They are now going ahead on those plots on which the same total quantities were given at the beginning of the season.

The third application of two maunds of oil-cake has also been given to the plot which is receiving three doses of two maunds of oil-cake per acre during the rains with the object of comparing this method of treatment with similar treatment during the cold weather.

Plucking.—There have been two rounds of plucking during this month. The total yield of green leaf up to the end of the month has been 758 maunds 9 seers as compared with 729 maunds 32 seers to the same date last year. During this month 154 maunds 32 seers were plucked. Last September the yield was 160 maunds 9 seers.

The yield of the leaf during the last two months has fallen off in comparison with last year.

There are several reasons for this. In the first place there has not been much manuring this year, for many of the plots have been left unmanured in order to study the residual effects of the manures which have been applied in previous years, and secondly, the plucking has been at such intervals that it has been impossible to avoid large loss of leaf. In addition to this, the whole of No. 8 A (about 20 acres) is badly in need of a through cleaning out.

Visits.—Visits have been paid during the month to Mr. Davis, Manager of Gingia Tea Estate, Mr. Davidson of Borbang Tea Co., Ltd., and Mr. Grimston of the Eastern Assam Tea Co.

Malabar Withering Machine.—During the month a trial of a Malabar withering machine was witnessed at the Nagadhooli garden of the Hunwal Tea Co.

HEELEAKA.

(Signed) G. D. HOPE.

Extracts from Abstract of the Proceedings of a Meeting of the General Committee held on the 2nd November, 1909.

Quality of Tea Dust.—In April 1908, the Committee were addressed by the Collector of Customs, Calcutta, with reference to the forwarding to London of a consignment of tea dust with which much sand had become mixed, the result being that the consignment was refused admittance by the Home Customs authorities. The Collector had then suggested that steps might be taken to prevent this again happening. As the tea referred to had been "purchased" tea the Committee had forwarded the Collector's letter and the sample sent with it to the Calcutta Tea Traders' Association for disposal. There was now before the Committee a letter of 23rd October, 1909, from the Board of Revenue in which reference to this matter was made. The circumstances were recapitulated and it was added that the Tea Traders' Association had replied that they were unable to control the sale of tea dust and that shippers and others would be deterred from repeating the experiment by the knowledge of

the risk they would be incurring of having the stuff thrown back on their hands and being saddled with the charges in connection with it. The Board of Revenue stated that in January last a consignment of tea was shipped from Calcutta to London which, on analysis in the London Custom House, was found to contain an excessive proportion of sand. Under the Food and Drugs Act, the Commissioners of Customs had refused admittance to the tea except for the manufacture of caffeine; but alternatively they allowed the tea to be exported under special bond. This alternative had been accepted and the tea was re-shipped to Calcutta and it was re-landed there in August before intimation had been received that objection had been made in London to the tea being imported there. The Collector of Customs had consulted the Health Officer of the Corporation of Calcutta as to what preventive action he could take in such a case, and the Health Officer stated that under the Municipal Act the Chairman of the Corporation could seize any article intended for human food if it appeared to be adulterated. If, therefore, any consignment of tea mixed with sand came to his notice it could be seized by him and taken before the Municipal Magistrate for his orders as to its disposal. The Collector of Customs, Calcutta, had been directed to refer such a case of re-importation in future to the Health Officer.

A copy of the letter was to be forwarded to the Calcutta Tea Traders' Association for their information.

Abscinding of Coolies to Hill Tipperah.—This subject was mentioned in the Proceedings of last Meeting. One of the Sub-Committees of the Surma Valley Branch had arranged to submit a representation to the Government of Eastern Bengal and Assam regarding it and the General Committee then agreed to enquire whether any reply had been received from Government. A letter of 26th October from the Secretary of the Branch now stated that on the 25th September last the Chairman of the Branch had addressed Government with reference to the impossibility of obtaining any redress when coolies under agreement absconded to Independent Tipperah and that a reply to that representation was awaited. The Secretary of the Branch was to be asked to forward for the information of the General Committee a copy of the Chairman's letter to Government on the subject.

United Provinces Exhibition, 1910.—Reference was made in the Proceedings of last Meeting to the fact that papers had been received from the Deputy Director of Agriculture, United Provinces, in connection with the Exhibition to be held at Allahabad in December 1910. The co-operation of the Association was invited but as it was understood that the papers had been forwarded to the Tea Cess Committee no action on the part of the Association was considered necessary. The Deputy Director had been informed accordingly and in a further letter from him of 29th October he stated that so far as he was personally concerned the Cess Committee had not been addressed but that he was sending them copies of the papers. They had probably been addressed by the General Secretary with reference to an exhibit in the General Industries Court but the Agricultural Court in which he was interested was more particularly concerned with the exhibition of tea machinery and other exhibits dealing with tea as an agricultural product: he asked that consideration should be again given to the question of whether the co-operation of the Association could not be given.

The Committee considered the matter: they feared that in view of the comparatively small amount of tea produced in the United Provinces the manufacturers of tea machinery would hardly feel justified in making an exhibit at the exhibition: but it was agreed to draw the attention of the representatives of such manufacturers in Calcutta to the matter. As regards active co-operation it was pointed out that the Association had not been accustomed to take part in exhibitions. The Deputy Director of Agriculture was to be informed accordingly.

PLANTERS' ASSOCIATION OF CEYLON.

Extracts from Minutes of Proceedings of a Meeting of the Committee of the Planters' Association of Ceylon held at the Victoria Commemoration Buildings, Kandy, on November 12th, 1909.

ANNUAL REPORT, 1909.

The following were nominated as a Sub-Committee to draft the Annual Report for 1909:—Messrs. J. B. Coles, A. S. Long Price, Jas. Westland, W. D. Gibbon, Jas. Fraser, Jas. R. Martin, J. P. Anderson, J. S. Patterson, C. M. B. Wilkins, Hon'ble Mr. Edgar Turner, and Chairman and Secretary, Planters' Association.

CROP ESTIMATES FOR 1910.

Resolved:—"That the tea, cocoa and cardamom estimates be left in the hands of the above Sub-Committee, and that the Honorary Secretary of the District Planters' Associations concerned be asked to obtain statistics of the estimated quantities of rubber to be harvested in their respective districts in 1910."

DISTRICT ASSOCIATIONS.

READ the following Resolution forwarded by Kandy Districts Planters' Association:—"That this Association requests the Government to consult District Associations before the renewal of licenses, or the issuing of new licenses, for the sale of liquor in Planting Districts, especially where more licenses exist than are necessary."

Resolved:—"That it having been reported to this Committee that a fourth liquor license has been issued in the Wattegama District, and that, as in the opinion of the planting residents three are more than ample, the desirability be urged upon Government of consulting the local Planters' Associations before the issue of new licenses for the sale of liquor in planting districts."

INSECT PESTS AND BLIGHTS.

Submitted correspondence with Government on the proposed prohibition of the importation of Indian Tea seed with the view of preventing the introduction of Blister Blight into Ceylon.

Resolved:—"That, when the correspondence is completed, it be published for general information."

SHOT-HOLE BORER AND "CLERUS FORMICARIUS."

READ letter from Mr. Ernest Green forwarding a communication from Mr. Horace Donisthorpe, South Kensington, dated 9th September, to the effect that the weather this summer had been so bad, wet and cold, that it would have been useless to endeavour to collect a sufficient number of the beetles to be worth sending to Ceylon, but that everything would be done to collect and send as many as possible next summer.

THE "THIRTY COMMITTEE."

Extracts from Minutes of Proceedings of a Meeting of the "Thirty Committee" appointed to administer the proceeds of the export duty on tea levied under Ordinance No. 4 of 1894, for increasing the consumption of Ceylon tea in foreign lands, held at the Victoria Commemoration Buildings, Kandy, on Saturday, November 13th, 1909.

TURIN INTERNATIONAL EXHIBITION, 1911.

READ letter addressed by Secretary to Mr. Alfred Brown, President, Ceylon Association in London, informing him that the members of the "Thirty Committee" almost unanimously supported Mr. J. H. Renton's opinion (to whom the matter had been referred) that any available funds would be better employed in consolidating and following up the work already done by the Ceylon Commissioner in other countries on the Continent than in running a Tea Kiosk at the Turin Exhibition.

INDIAN TEA CESS COMMITTEE.

Submitted correspondence with the Indian Tea Cess Committee, Calcutta, regarding the disposal of the Ceylon proportion of the balance in Mr. Blechyn-den's hands at credit of the Joint Fund on 31st March, 1909.

Intimated that this balance, amounting to 3,967 dollars 98 cts., had been transferred to credit of Col. Wayne Wilson's Ceylon advertising account.

TEA.

The Tea Trade in 1908-09.

MESSRS. BROOKE, BOND & CO.'S ANNUAL REVIEW.

(TO THE EDITOR OF *The Times*).

SIR,—Last year in our annual review of the history of the tea trade during the preceding 12 months, we said that consumption was steadily increasing throughout the world. This year we are glad to be able to state that the increase has on the whole been maintained, and that the prospects of those connected with tea are brighter than has sometimes been the case. The trade has gone through many vicissitudes during the year, and there have been times of great anxiety for all concerned in it. We have had the usual annual dislocation of business consequent on the anticipation of a change in the duty. This year the disturbance was more serious than in the two preceding years, as there was a very prevalent belief that the duty would be raised. Consequently large quantities of tea were taken out of bond. Stocks went down 28,000,000 lbs. in eight weeks, a quite unprecedented fall. Naturally, after the Budget had been introduced, dealers had as much tea in their hands as they wanted for some months, and duty payments were very small for some time. Now, eight months after the disturbance began, they are about normal. Another difficulty with which the trade has had to cope is the

PERSISTENT ADVERTISING BY CERTAIN DEALERS OF

1s. 6d. AND 1s. 9d. TEA,

in some cases of 1s. 4d., as "best." Very determined efforts have been made by grocers to show their customers that it is impossible that "best" tea, which costs in bond from 3s. to 5s. a pound, can be sold retail for less than half its wholesale price. These endeavours have met with some success and the demand for good tea is now fairly satisfactory. The brighter prospects now opening before tea producers and distributors are chiefly due to the fact that for the last three years consumption has exceeded production. It may be that this excess of consumption over production may continue for some time, as the area under tea throughout the world has not been greatly extended lately, and the growth of the rubber industry may eventually reduce the output of tea in Ceylon. China will no doubt try to regain the position she has lost, and more tea will probably be sent from Java in the near future. The Chinese are making great efforts to increase the consumption of their tea by advertising and also, in the case of some manufacturers, by trying to make their product better suited to palates accustomed to British-grown tea, more "coloured in the cup;" in fact, more like Indian and Ceylon tea. In spite, however, of these endeavours,

HOME CONSUMPTION OF CHINA TEA SHOWS A DECLINE

of over 2,000,000 lbs. during the year 1908-09 from the amount consumed during the preceding 12 months. The figures are:—1,595,738 lbs. during 1907-08, and 8,365,156 lbs. during 1908-09. Total exports from Ceylon were 182,000,000 lbs. in 1908-09. Direct exports from Colombo to foreign markets were higher than in the preceding year, being 71,819,000 lbs. against 70,453,000 lbs. in 1907-08. The increase was chiefly to America. Home consumption of Ceylon tea surpassed that of any previous year, owing greatly to the efforts made by dealers to educate their customers to drink good tea. The sales of Ceylon tea in the second week of June this year established a record, 46,370 packages being sold. The nearest approach to such a quantity as this was in the second week of August, 1900, when 42,978 packages were put up to auction. There has been

A GREAT INCREASE IN OUTPUT IN JAVA

lately, production having more than doubled in seven years. This is not so much owing to increase in area—indeed the Government practically refuses to lease land for tea-planting—as to the replacing of the China bushes with

Indian seed. Chinese seed apparently does not suit the soil and climate, but Indian seed, particularly the Assam indigenous, does very well in Java.

The proportion borne by the different producing countries in supplying the tea-drinkers of the United Kingdom may be seen from the following figures:—

1908-09.			1907-08.		
	lbs.	Percentage.	lbs.	Percentage.	
India ...	176,552,195	59·5	155,633,106	57·0	
Ceylon ...	93,513,998	31·6	92,162,414	33·6	
China ...	8,365,156	2·6	10,595,739	4·0	
Java, &c. ...	18,832,859	6·3	14,749,117	5·4	
	297,264,208	100·0	273,140,375	100·0	

In round numbers 270,000,000 lbs. (91 per cent.) of the tea consumed in the United Kingdom in the year 1908-09 was British-grown and 28,000,000 lbs. (9 per cent.) foreign. In the preceding year 248,000,000 lbs. of British-grown (90·6 per cent.) and 15,000,000 lbs. (9·4 per cent. of foreign tea was consumed. Under the heading "Java, &c.," is included Natal and all other tea not British-grown or Chinese. Small quantities of tea are grown in Burma, Nyassaland, the Straits Settlements, and one or two other places, but the amount exported is very small. Natal tea is a good deal drunk in the Colony itself and to a small extent in other parts of South Africa. So far as to the production of tea throughout the world. Now let us turn to the question of consumption. We have already seen that the United Kingdom consumed, in round numbers, 24,000,000 lbs. more tea in 1908-09 than in 1907-08. Consumption is also increasing in other countries, notably in France, Russia and Germany. The

GREAT DEVELOPMENT OF THE RUSSIAN TRADE

In Indian tea is one of the features of the year. Russia is India's best customer outside the United Kingdom, Australia being the second best. During 1908-09 Russia took 3,000,000 lbs. (about 20 per cent.) more Indian tea than during 1907-08. There is a report that the steamers of the Russian Volunteer Fleet are ceasing to run direct between Calcutta and Vladivostock, which will oblige Russian buyers to send their Indian tea *via* Colombo. We need not fear that this will prevent their buying in Calcutta. Indian tea suits them, and they will not suffer small inconveniences to interfere with their obtaining it. There is now an Anglo-Russian Chamber of Commerce in St. Petersburg, which it is expected will further trade, including the Indian tea trade, between the two nations. There is to be a Russian Exhibition in London in 1911, and it is hoped that the London and St. Petersburg Chambers of Commerce will arrange a British Exhibition in St. Petersburg later. Steady efforts have for some years been made

TO POPULARIZE BRITISH-GROWN TEA IN GERMANY.

There are tea rooms where it is served in Berlin, Hamburg and Wiesbaden, and it is suggested that one shall be opened in Munich, where Ceylon tea has been made popular by means of the tea pavilion at the exhibition last year, when the tea and the arrangements were alike excellent. There are to be exhibitions at Brussels and Turin next year, of which, no doubt, advantage will be taken to demonstrate the excellence of British-grown tea. The introduction of packet teas has caused an enhanced demand in British Guiana and the West Indies, particularly Barbados, where the increased consumption is, doubtless, partly owing to the growing prosperity of the inhabitants. The impossibility of obtaining complete returns as to the amount of tea retained for use in the country makes it very difficult to estimate consumption in India, but there is every reason to think that tea is growing in favour with

the natives. It is difficult to obtain reliable figures with regard to the

CONSUMPTION OF TEA IN THE UNITED STATES

during 1908-09, as imports were governed by other considerations than demand. Early in the present year it was known that there would be a deficit, estimated at 135,000,000 dols. (£27,000,000) in the revenue for the year, and it was thought probable that a tax would be imposed on tea. As was expected, the Tariff Bill, introduced on April 17th, proposed such a tax. For the next four months, until August 5th, when the Bill (*minus* the clause imposing a tea duty) was signed, American speculators were in a state of feverish excitement. Imports from countries of production, from the United Kingdom, and from Canada increased until it was estimated that there was enough tea in the country to satisfy the ordinary demand for at least two years. These events render it impossible to estimate the exact consumption for the year or the proportion consumed of the various growths of tea. It seems, however, certain that the popularity of British-grown tea has increased. *Per capita* consumption would probably increase faster were it not for the constant influx of persons from Italy and other coffee-drinking countries. In Canada, on the contrary, we find that the tea-room habit has taken root owing to the constant influx of persons from England and other countries where "five o'clock tea" is an institution. Four years ago, in our annual review of the history of the tea trade, we drew attention to the fact that

A TEA AUCTION HAD BEEN HELD IN LIVERPOOL

for the first time for nearly half a century. Since then imports of tea have greatly increased, and some Liverpool merchants think that more tea ought to be landed there than in London. They point out that the population within 100 miles of the centre of Liverpool is greater than the population within the same radius of the centre of London; also that the greater part of the tea brought from the East to London comes in Liverpool ships. Were the tea to be taken straight on to Liverpool, instead of being landed in London and sent thence to the North by rail, a great saving would be effected in railway rates, cartage, &c. Liverpool is also more conveniently situated than is London for transshipments to America. A tea trade section of the Liverpool Chamber of Commerce has been formed, with the object of encouraging direct importation and thus securing the monopoly of the trade of North Wales and of the North of England. Any speculations regarding the future of the tea industry at this moment would be incomplete which did not take into account the

POSSIBILITIES OF A CHANGE IN THE DUTY.

The tea trade would seem to be in the fortunate position of standing to win both ways, whichever political party is in power next Budget time. Both are practically pledged to reduce the tea duty. Mr. Lloyd-George stated only recently that it was with the greatest regret that he found himself unable to reduce the tax this year, and that the most favourable consideration would be given to tea directly the finances of the country made any reduction in any tax possible. If, on the other hand, by next spring the protectionist party find themselves in power, they also are pledged to reduce, if not entirely to take off, the tax on British-grown tea. What would be the result of a big reduction of the tea duty? It is difficult to answer this question, but our own opinion is that if the tea duty were removed entirely it would be some time before the consumer would reap the whole benefit. The immediate result of the abolition of the duty would probably be a sharp jump upwards in consumption, and consequently in prices, as it is impossible for production in India and Ceylon to be increased otherwise than slowly. Thus the immediate effect of the abolition of the duty would probably be to put the price of tea to the consumer on only a slightly lower level than it is at the present time.

Yours faithfully,

(Signed) BROOKE, BOND & Co., LTD.

ST. DUNSTAN'S-HILL, E. C.,

November 1st, 1909.

RUBBER.

Manihot Dichotoma.

RESULTS OF EXPERIMENTS AT PERADENIYA.

By MR. R. H. LOCK.

Owing to the interest now beginning to be taken in the new species of rubber, it seems desirable to add a few remarks to those made at the Meeting of the Board of Agriculture on April 7th of the present year. Three acres of the above-named species have now been planted out at the Peradeniya Experiment Station. On October 8th the first of these acre plots was exactly two years old from the date of planting. The plot contains 68 trees planted 20 x 20 feet apart, and the average circumference at three feet from the ground is just nine inches at the time of writing. This average girth includes that of every tree. Those in the outer rows have made very poor growth, probably owing to the proximity of neighbouring dadaps and other trees; a few supplies are included; and several stumps broken off by wind at some distance above the ground, but now beginning to sprout again, were also measured. As a precaution against further damage by wind the majority of the larger trees were pruned three months ago, a good many branches being removed in the process, and it may be supposed that this process has retarded growth to some slight extent. Nevertheless the fourteen largest trees show

AN AVERAGE CIRCUMFERENCE OF 14 INCHES

and have more than doubled in girth during the past year. The second plot at Peradeniya consists of trees planted 12 x 12 feet in November, 1908; so that these plants are now just a year old. The land upon which these trees are growing was ploughed before planting and has been kept cultivated by means of a disc harrow ever since. The result of this treatment seems to be obvious in the growth of the plants, which average quite 6 inches in girth over the whole area, and are already producing seed in considerable quantity. The third acre has been planted up during the current year. On half the plot the plants stand 8 x 8 feet (planted from cuttings) and on the other half 6 x 6 feet (seedlings) in order to test the effect of close planting.

A MARKED CHARACTERISTIC OF MANIHOT DICHOTOMA,

which is particularly well seen in the acre of year old trees, is the extraordinary variability of the species in vegetative characters. This is specially noticeable in the shape of the leaves and fruit capsules. In some cases the leaves might almost be mistaken for those of the ordinary Ceará rubber (*Manihot Glaziovii*), whilst on other trees the leaf lobes are much longer and narrower and deeply wavy in outline. On some trees, again the seed capsules are nearly smooth (like those of *Manihot Glaziovii*, though larger), whilst on others the capsules bear high crinkled ridges or wings. Curiously enough, those trees which resemble the Ceará rubber in the shape of the leaves usually differ widely in the capsules and *vice versa*, and, when the whole aspect of the tree is taken into consideration, there is never any possibility of confusing one with the other. The extraordinary variability in vegetative characters is of special interest, as indicating the likelihood of a similar diversity between the yields of latex produced by different trees. Of such a variability, which is known to occur in almost all rubber-yielding plants, we have already some indications. . . .

THE CHIEF DEFECT

which we have so far noticed in this plant is its brittleness, the tops being very liable to damage by wind. In this way large branches may be torn off, or the whole tree broken down or uprooted. Sometimes it seems as if the mere weight of the crown were too much for the strength of the supporting structures, the point of weakness being the place where the first whorl of branches joins the upright trunk. The twelve largest two-year-old trees were

tapped on alternate days from October 7th until the end of the month. Six of the trees were tapped to the wood with the knife only; the remaining six were tapped with the Northway knife and pricker. The following amounts of rubber (in grammes) were obtained in ten days' tapping:—

5'48;	1'91;	3'46;	8'05;	1'78;	8'41;
'77;	5'63;	3'19;	4'00;	3'00;	4'06;

or 47·24 grammes of dry rubber from twelve trees in ten days, in addition to 25·35 grammes of scrap, or 72·69 grammes of dry rubber altogether, which is equivalent to 2·6 ounces. Supposing that one cooly at 35 cents can tap 120 trees in a day, the cost of tapping works out at Rs. 2·20 per lb. As was only to be expected, the yield of rubber actually obtained is very small. There is no reason, however, for supposing that any other variety of rubber would have given a larger yield at two years old. In spite of the small number of trees examined, the variations in yield are well marked, more than ten times as much rubber being yielded by the best as by the poorest yielder.

THE ONLY CONCLUSION

which can be drawn from the above results is that a commercial yield of rubber cannot be expected in two years from planting, and it is quite impossible to say what the result after three, four or five years may be. It seems probable, however, that it will be possible to distinguish good and bad yielding trees by experiment within three years from planting. Those who intend to give this species a trial would therefore do well to plant up a small area of 1 to 5 acres at once with a view to further planting in two or three years time. Then, if experiments carried out on the trees at Peradeniya indicate that *Manihot dichotoma* is likely to turn out a commercial success in Ceylon, the intending planter will be in a position to cover a further area with the offspring of plants selected for their good bearing quality, using seed or cuttings according to the result of our further investigations. It should be understood that this advice is given without any promise that *Manihot dichotoma* will prove a success in Ceylon as a source of rubber; but, if the species does prove profitable, careful attention to the selection of seed parents will undoubtedly enhance the ultimate profits very materially.—*Tropical Agriculturist*.

"Pink Disease."

COFFEE, CROTALARIA AND HEVEA ATTACKED.

In the current issue of the *Tropical Agriculturist* Mr. T. Petch writes as follows:—

The publication of the circular on "pink disease" (*Corticium javanicum*) has evoked a flood of specimens from all quarters. It seems to have been fairly prevalent during the prolonged rains of the last four months. An example on coffee adds another to the list of plants attacked by it in Ceylon; in this instance the fungus developed its conspicuous pink patches along the fruiting branches. Two most interesting examples were sent from Southern India where it attacks crotalaria inter-planted among Hevea, as well as the young Hevea. In one instance the crotalaria was about a year old, but had not flowered nor been pruned; the stem forwarded was exceptionally woody, and measured about three quarters of an inch in diameter. The disease appears to begin, as a rule, near the base of the stem. One correspondent states "almost the whole of the crotalaria I have noticed that has been sown in these parts is covered with the same disease." In such cases the densely-grown

CROTALARIA ACTS AS A RESERVOIR OF DISEASE,

from which it may spread to the Hevea; but it is scarcely possible, without continuous observation, to say whether the attacks on Crotalaria and Hevea are successive or simultaneous. The growth of Crotalaria in Southern India appears to be much more vigorous than in Ceylon—I have never seen any Ceylon plants which attained the size of these Indian specimens before flowering.—and, in accordance with this, *Corticium javanicum* has not yet been

recorded on *Crotalaria* in Ceylon. There does not appear to be any danger in growing *Crotalaria* among rubber in Ceylon at present, and where the growth is so vigorous that it forms a tall jungle, some smaller green manure and cover plant must be adopted, or it must be cut down earlier. From the mycological standpoint any green manure plant which grows tall should not be planted in dense masses; the lower the plant, the less is the danger of disease. A plant which would not exceed a foot in height would be ideal, and could be sown as thickly as wished. There is a tendency to grow manure plants too long. In temperate climates such a crop is often ploughed in at the end of a month, but here the idea always appears to be to make it run as long as possible and to obtain some profit by selling seed. There is little advantage in a green manure plant, as such, until it is cut down and mulched in, but the question is of course complicated by the problem of weeds and wash. On many Estates lateral branches of *Hevea* which arose from the first six feet or so of the stem have been cut off; or when the trees forked near the ground level one stem has been removed. In the majority of cases, the branch or stem has been sawn across a few inches from the main stem, thus leaving a "stub" two or three inches long. This was

THE METHOD RECOMMENDED YEARS AGO

before the principals of plant physiology were applied to garden practice. It is now generally recognised that the bark will never grow over such a stub, and that the end always remains exposed and affords a possible point of entry for destructive fungi. As a rule, the stub will die back, though this danger may be avoided by tarring it periodically. The current of water and food passes up and down the main stem, and the stub is sidetracked. Now, the periodic tarring would not be necessary if the bark would grow over the cut surface, and the modern pruner obtains this desired effect by cutting off the branch as close to the main stem as possible. *The cut should be made parallel to the main stem and close to it; it should not be made perpendicular to the branch cut off.* According to the old idea, the cut should be made so as not to injure the bulge at the base of the branch; the modern pruner cuts right through the bulge and endeavours to leave the stem as smooth as possible, i.e., without any projecting remains of the branch. He certainly makes a bigger wound, but as the bark has only to grow on in a straight line, it heals over completely in a comparatively short time. The recommendation that coal tar should be used for covering wounds does not meet with the approval of Ceylon planters. From the Mycologist's points of view Stockholm tar is too evanescent. I am aware that it has been universally recommended for tea, but there do not appear to be any definite comparative experiments on the subject. One planter informs me that coal tar kills back the branches worse than Stockholm tar while another assures me that the reverse is the case. I have certainly seen coal tar used in branch canker on tea without any injurious effect. Either will kill the green bark if applied to it, and in this respect Stockholm tar is liable to do most damage because it is more fluid and therefore more likely to run. Stockholm tar is a poor protection against fungi, and in one case, in *Hevea*, fungi grew on the cut surface three weeks after its application. Modern practice favours coal tar.

How to tap Ceara Rubber.

WITHOUT INJURY TO THE TREES.

Considerable difference of opinion exists as to the best method of tapping Céará Rubber Trees, of which it is said many have died when tapped in the same way as a Pará tree is tapped. Mr. James Westland, Senr., on Gamaduwa, has by experiment and observation devised a system of tapping which, he tells us has had

NO BAD EFFECTS WHATEVER UPON THE TREES.

Mr. Westland uses a knife, something after the style of a farrier's, specially made. He commences operations by stripping off the outer bark for about three feet and cutting a small vertical channel about an eighth of an inch

broad and about three feet long down the tree. This channel may go right through the bark but on no account must the body of the tree itself be cut. Having made this channel, a number of cuts after the manner of the half herringbone system may be made from fully one-third round the tree. If the full herringbone is employed Mr. Westland insists on the importance of the cuts on the other side of the channel being so as to avoid forming a complete V with the apex on the perpendicular channel.

THE MOST IMPORTANT RULE TO BE OBSERVED

in Mr. Westland's system, however, is that in the second day's and future tappings no attempt must be made to widen any of the cuts already made as is the case in tapping Pará rubber. New cuts must be made below the first cuts, which are a foot or so apart, every new cut being at least three-quarters of an inch apart. The latex flows freely from trees three-and-a-half years from planting and Mr. Westland assures us that it is most surprising how rapidly these narrow cuts heal up and present a new surface ready to be tapped again. In the cinchona days it was customary, after shaving the trees of their bark, to thatch the trunk with manno grass to assist it in recovering from the operation. Mr. Westland has been trying this with a view to improving the bark and facilitating the healing of the wounds on a tapped rubber tree.—*Ceylon Observer*.

RUBBER IN BRAZIL.

In view of the interest attaching to the report issued by Mr. Milne Cheetham, Secretary of the British Legation at Rio de Janeiro, containing certain strictures on the prospects of wild Brazilian rubber, a representative of the *Financial Times* applied for further information on the subject to Mr. H. de Vasconcellos, the Agent in London of the Brazilian Government Propaganda.

"The tendency of Mr. Milne Cheetham's remarks," said Mr. de Vasconcellos, "as quoted in your article, would be to make people suppose that there was no such thing as rubber planting going on in Brazil. That is a great mistake. There is a great deal of rubber planting being done—which I have seen with my own eyes—in Bahia, Sao Paulo, Pará and Amazon. One of the planters is a Canadian, Mr. G. W. Girdwood, and he has extensive estates in Bahia. And I believe that the movement will continue, and that, furthermore, the quality of Brazilian rubber will never be surpassed by that of any Eastern product."

Mr. de Vasconcellos founds this belief on the fact that both native Brazilians and Companies with foreign capital coming to Brazil to exploit rubber have profited by experience. On the one hand, the utility of planting rubber estates has gained ground, and on the other the mistakes made by the foreign Companies have become perfectly recognised. He remarked:—"When I speak about planting rubber, I do not quite mean in the sense in which rubber is planted in the Malay Peninsula and elsewhere. Large sums of money are spent there on clearing away the wild vegetation that grows between the trees. That is a great mistake. Moistness in the ground is essential to the perfect growth of the rubber tree, and what are regarded by Malay planters as weeds help usefully to retain the moisture of the soil. The Brazilian forest is the natural home of the best rubber plant, the 'Hevea Brasiliensis,' and I do not expect it will ever flourish properly in any other country, where it does not find the same conditions as to heat, moisture, &c., as it does in its native home. Eastern planters need not be surprised to find the product of their trees falling off after twenty or thirty years, when they do not supply the trees with their native conditions."

RUBBER PLANTERS IN MEXICO.

Mexico, the home of the *Castilleja Elastica* is the home also of the *Euphorbia*, one variety of which occurs in large quantities and yields a rubber, of inferior quality and difficult to tap; while another variety, known as "Chupire" produces a very white latex which contains about 21 per cent. of rubber.

OFFICIAL PAPER.

Courses in Practical Agriculture.

The following is published at the request of the Inspector-General of Agriculture in India:—

Short Courses in Practical Agriculture and in other Allied Practical Subjects at Pusa.

The function of the Pusa College in the general scheme of Agricultural Education in India has been defined as that of a Higher Teaching Institution and Research Station for post-graduate agricultural students and for advanced science students, particularly from Indian Universities.

At the present stage of development of the Provincial Agricultural Colleges it also seems necessary for the Pusa Institute and Estate to assist Provinces and Native States by instituting short courses of instruction in special branches of agriculture or in simple industries connected with agriculture. There are now facilities at Pusa for thorough instruction in the subjects referred to. Such instruction cannot well be given in other parts of India for at least some years; therefore I hope that a hearty response will be given to the proposals which I note below.

The short courses which I propose are broadly defined in a Syllabus for each subject which is appended hereto. I attach the greatest importance to the value of these courses. There is an undoubted demand for them, but it is impossible to get at present elsewhere in India such simple technical instruction except as a part of much longer course. The instruction will be essentially practical in character and will require no scientific training and not even a knowledge of English. It would, however, be an advantage if the man had all a fair general education.

Men who have not the instincts of the professions which they are following or propose to follow will not be accepted. I desire to admit in particular to Pusa for these courses men who are *bona fide* agriculturists or *malis* by caste.

The courses will be suitable for men of the subordinate staff of all the Agricultural Departments, and will be open to private individuals who are engaged or propose to engage in the special branches of agriculture and allied subjects dealt with. It is not possible at first to take more than 9 students in each subject at one time, but several subjects can be simultaneously taken up by the same students.

A recommendation by a Director of Agriculture or any other authorised authority will be accepted in regard to any application for admission, if the applicant is certified to be of good character and in robust health.

Free quarters of a very simple but sufficient character will be provided.

Students will have to pay all travelling and personal expenses. The latter at Pusa need not exceed Rs.15 per mensem and might easily be less.

No books will be required.

It is proposed to start classes as soon as possible; so applications should be addressed to the Director and Principal, Agricultural Research Institute, Pusa, Bengal, at as early a date as possible.

(Signed) J. MOLLISON,

Inspector-General of Agriculture in India,

15th September, 1900.

SYLLABUS OF SHORT COURSES.

Section of Agriculture.

1. *Cattle Breeding and Management.*—The course will occupy three months. It will deal with the general management of breeding herds and of milch and draught cattle and will include simple instruction in the recognitional treatment and prevention of the more common diseases. The second Imperial Entomologist will deal with the principal insect-pests of cattle, the part which they play as disease carriers and methods of treatment. Courses will commence in October and January.

2. *Poultry Management.*—This will be a three months' course and will include instruction from the second Imperial Entomologist in the treatment of the insect pests of poultry. Courses will commence in October and January.

3. *Dairying.*—This is intended to be a complete course, extending over six months, in up-to-date dairying.

4. *Tillage Implements and Agricultural Machinery.*—Training will be given in the principles of construction and in the handling of the common Indian and European tillage implements and agricultural machinery, including ploughs, drills, cultivators, water-lifts, steam-engine, oil-engine, etc. Arrangements have been made for a complete collection at Pusa of all useful indigenous agricultural machinery, implements and tools. The course will occupy three months and will commence in October or January.

Section of Economic Botany.

5. *Fruit Growing.*—The course will be an eight months' one and will deal with—

(a) The general management of a fruit garden, including choice of site, laying out, draining and planting, the choice of varieties, irrigation, cultivation and manuring.

(b) Special processes, such as budding, grafting, layering, pruning and root pruning, weathering.

(c) Disposal of fruit, including picking, grading, packing and marketing.

(d) Evaporating, drying and preserving.

The course will begin each year on the 1st of October and will last till the end of May.

Section of Entomology.

6. *Eri-silk as a Cottage Industry.*—The course will occupy about three months and will commence in October and January. It includes rearing and spinning. If dyeing and weaving are to be learnt, three months more would be required.

7. *Lac Cultivation as an Adjunct to ordinary Agriculture.*—The training can be given only from May 15th to June 15th or September 20th to October 20th. These dates vary a little according to the season as lac does not always come out regularly. The training includes pruning and handling of trees, inoculation of lac, harvesting, scraping and washing. It covers the whole industry to the production of seed lac and is exclusive of the production of shellac.

8. *Mulberry Silk Culture.*—The course would include rearing, selection of disease-free eggs, reeling and the utilization of waste cocoons. Instruction would also be given in the varieties of silk worm. Silk twisting (spinning) and dyeing with the simpler forms of weaving could be taught. The course would occupy six months if it ended at the reeling, nine months if it included twisting, dyeing and weaving of simpler fabrics. The training would cover only the ordinary existing methods, not improved methods of reeling of the more complex forms of weaving. The course will commence on June 15th each year.

CORRESPONDENCE.

LABOUR.

To

THE EDITOR OF THE "PLANTERS' CHRONICLE."

DEAR SIR,

In case my friends may fall into the error of supposing that I consider myself absolutely demolished by Mr. Bernard Malcolm's letter published in the *Madras Times* of November 1st, I am breaking my recent vows of silence, by writing to you (really for the last time) on the subject of Act I of 1903. Mr. Malcolm makes the statement that it is obvious no Labour Law can increase a labour supply. Then why, may I ask, have the supporters of legislation always implied that it would? I certainly have the impression that one of the reasons for the attempt to force me to accept legislation, was that future competition will diminish the supply, and that the cure is Act I of 1903. If I am wrong in this impression, I err in good company, for in a leaderette in the *Madras Times* of the date mentioned above, it is laid down that: "It is absolutely certain that the day will come when the labour supply available will not be sufficient for the growing demand. Planters will then find that they are in need of an Act."

This means, if words have any meaning, that the labour supply having become insufficient, legislation will be demanded to cure this insufficiency of supply, *ergo* to increase it. I am glad Mr. Malcolm recognizes its absurdity.

2. *Specific performance.*—I will suppose for the sake of argument that the Act does give specific performance in all the senses claimed by Mr. Malcolm. What does it amount to? The defaulter *shall* be punished with imprisonment, or fine, or both. To my way of thinking this would do me no good, and my past experience is that imprisonment does harm. I claim that Act I does not enforce specific performance, it only punishes the man who does not perform his contract. I fear Mr. Malcolm's views and mine are irreconcilable here, for he says that Act I gives him all the specific performance he can expect, by imprisoning and fining his defaulters, and I claim that this is no good to me.

3. I am sorry I used language which might be read to mean that I had experience of working Act I of 1903. I hope never to have that experience. Mr. Malcolm seems to count as money recovered, the order of the Court that the money shall be repaid. My experience of Law Courts of all kinds is that they may order payments to be made till they are black in the face, and the order is set at nought by the defaulter. I on the other hand count the money as recovered, when the cash is in my pocket. The sale of movable property of a cooly is held up once more as a valuable gain to his creditor! Here again I cannot see that Act I results in the recovery of advances.

4. *Crimping.*—What planters call crimping, is not what the law means by enticement of a labourer or labour connection. Many planters would not hesitate to call "Crimping" the occurrence which led to the "Coonoor case." I therefore uphold my contention that the power of Act I to prevent "Crimping" is limited to the extent clearly indicated by the Coonoor case. No legislation can help us against crimping, in the planter's sense of the word. If a man deliberately goes into another man's property to entice away his coolies, the ordinary law of the land is sufficient to punish the intruder. I do not see the necessity of introducing fresh legislation to meet that point.

5. I must decline to accept Mr. Malcolm's invitation to show my brother planters how to do without a labour law. To have to reply to this point covers me with blushes and confusion, for it forces me to make the embarrassing confession that I consider I have an advantage over my brethren in the knowledge I have acquired. I trust this knowledge is useful to my employers, and as they pay me for using it, I consider it belongs to them, and is not mine to "give away." Even if this were not so, I think I would refuse to part with an asset which in my humble opinion gives me an advantage in my business over others in the same walk of life.

6. I am glad to find that Mr. Malcolm concedes some force to the chief one of my reasons for not accepting Act I.

As regards the reiteration of the taunt that my own Association once agreed with others in asking for a labour law, my reply, as before, is that we did not get what we asked for. Our demands, as it now seems, were preposterous. We subsequently took the only course we could, in declining to accept the law offered, without interfering with the desires of those districts which wanted that law and which have since derived so much benefit from its application. In spite of my having no practical experience of the working of Act I, I "*rushed in where angels feared to tread*" with my six objections. This was at the distinct invitation of Mr. Malcolm, who said he hoped those who were against the Act would state their objections, and now, just see what I have let myself in for, by swallowing the bait so skilfully dangled in front of me!

The *Madras Times* leaderette to which I have already referred says: "the Act will not be forced on unwilling districts." If this is now the intention of those in favour of the Act, I think I may fairly claim that it is a "climb down," for a most determined effort was made at this year's U. P. A. S. I. Meeting to force all districts to accept the Act irrespective of their wishes. The only voice raised at the time against a majority imposing its will on an unwilling minority in such a matter, was mine. It flatters my vanity to see that others have since agreed with me. If there had been a clear two-thirds majority in favour of the Act, I wonder if the words I have quoted would ever have been written. They come a little late now, when we have kept for ourselves a right to which we were all along justly entitled, but to deprive of us which so strong an attempt was made.

Let me end up with something that is friendly after all this controversial bother; if Mr. Malcolm and I lived in the same District and both understood its wants, we might agree. As he lives in the Wynnad, where the conditions are something that I don't understand, I do not interfere with his undoubted right to work under Act I of 1903. As my work lies in a District, the conditions in which are such as Mr. Malcolm does not understand, I crave from him the right to work without it.

SRIVILLIPUTTUR, }
4th November, 1909. }

Yours faithfully,
AYLMER FR. MARTIN.

Planters will probably read with interest the following excerpts from "Impressions of the Second International Food Congress," by Mr. Loudon M. Douglas, Lecturer on the Food Industries, Edinburgh, Honorary Secretary in the United Kingdom of the White Cross Society of Geneva: "Coffee was clearly defined as being an article of produce without the addition of any foreign matter, from the Coffee bean in its entirety, and the addition of Chicory in any shape or form, or the extraction of Caffeine, were declared to be sophistications, and were prohibited. . . . Cocoa and Chocolate attracted much attention, and there was a long battle between small producers, and large capitalists as to what may be tolerated in Cocoa. The small producers wanted the use of Alkali to be recognised, inasmuch as they contended that, while the use of Alkali enabled them to produce a cheaper commodity, they also sold the Cocoa at a cheaper price than the large manufacturers, and consequently they supplied a large section of the public who could not afford to pay the large prices asked for by the few large manufacturers. Subsequently it was declared that the use of Alkali in Cocoa manufacture should be tolerated, but that the whole question should also be submitted to an international commission. . . . One thing was very noticeable, namely, that it became plainer and plainer as the Congress progressed that there was hardly a substance in connection with the food supply, which was not subjected to some kind of sophistication or adulteration, and it became evident also, that if the means could be devised to prevent frauds in food, it would be an immense gain to every nation, inasmuch as it appeared to be quite common in some industries to employ skilled chemists with a view to reducing the quality of the food, while preserving their eternal appearance, and that frauds of this kind are daily perpetrated. This more especially affects the poor, who are not in a position to judge of the purity of their food, or control it in any way."

The Planters' Chronicle.

RECOGNISED AS THE OFFICIAL ORGAN OF THE U. P. A. S. I., INCORPORATED.

VOL. IV.]

JANUARY, 1910.

[No. 12.

U. P. A. S. I.

(INCORPORATED).

The Madras Legislative Council.

The elections recently held resulted in the return of Mr. John G. Hamilton, of South Mysore, as Planting Member of the Madras Legislative Council, and the Government of Madras were duly notified of this.

Mr. Hamilton has asked the Secretary, U. P. A. S. I., to intimate to District Planters' Associations how greatly he appreciates the confidence shown in him, and to give an assurance of his intention to do his best for the planting community.

The Proposed Coffee Cess.

In a letter dated the 16th December the Secretary to the Government of Madras, Revenue Department, writes :—

"In continuation of Mr. Wynch's letter No. 2880, dated 20th October, 1909, informing you that your letter of the 5th idem containing the representations of the Association on the subject of the levy of a cess on Coffee exported from this country has been forwarded to the Government of India, I am directed to request that you will be good enough to furnish further evidence that the Association's proposals in favour of a cess on Coffee command the approval and support of the bulk of the coffee-planters of Southern India whose produce would be affected by it. The Association may, perhaps, be unable to supply complete statistics of the coffee-producing area under cultivation, but some approximate figures proving that the demand for a Coffee cess has the support of a very decided majority of coffee planters, whether members of the United Planters' Association of Southern India or not, are necessary before His Excellency in Council could give the proposal his support."

Service of Warrants, &c.

In a letter dated the 8th December the Chief Secretary to the Government of Madras, Judicial Department, writes :—

"I am directed to acknowledge the receipt of your letter dated the 20th November, 1909, furnishing instances of the failure of the Police to serve processes.

"2. In reply I am to state that under the rules in force the work of the Police in connection with the service of processes is carefully supervised; and that if in any District the Police are thought to neglect their duty in this respect, complaints to the District Magistrate will without doubt receive due attention. The Government do not consider that the facts adduced in your letter warrant their taking any special measures in the matter."

The Scientific Officer.

Writing on the 15th December, the Secretary to the Government of Madras, Revenue Department, said :—

"In continuation of my letter No. 1657, dated 22nd June, 1909, I am directed to enclose for your information a copy of the Proceedings of this Government, No. 3443, Revenue, dated 15th December, 1909, regarding the relationship of the Scientific Officer appointed to assist the Planting Industries to the United Planters' Association of Southern India."

[Inclosures].

ABSTRACT.

Scientific Officer appointed to assist the planting industries.

Approving the proposals of the Board of Revenue regarding the relationship of the.....to the U. P. A. S. I. and the establishment required for him.

G. O., Press P. No. 3443, Revenue, dated 15th December, 1909.

READ the following papers :—

Again G. O. No. 1655, Revenue, dated 22nd June, 1909, communicating correspondence relating to the appointment of a Scientific Officer for the purpose of assisting the Planting Industries of Southern India.

From the Board of Revenue, Revenue Settlement Reference No. 2205, dated 23rd September, 1909.

From the Accountant-General, Endorsement No. G. A. 40/18917, dated 6th October, 1909.

Order.—The Board's proposals that the Scientific Officer appointed to assist the planting industries should be entirely at the disposal of the U. P. A. S. I. in respect of his tours and work and that his head-quarters should be fixed at Bangalore are approved.

2. The Government approve also the proposal that the U. P. A. S. I. should provide the office accommodation and establishment required for the officer and pay and travelling allowances at the usual rates to the members of that establishment when they are on tour, in return for a fixed yearly payment of Rs.1,000 from Government. This allowance should take effect from the 1st September, 1909, as recommended by the Board, and may be set off against the contribution of Rs.3,000 per annum due from the Association towards the cost of the officer. For the current financial year, the payment due to the Association at Rs.1,000 per annum for the six months beginning from the 1st September may be set off against the proportionate contribution to be recovered from the Association as directed in G. O. No. 2077 Mis., Revenue, dated 29th July, 1909.

3. With reference to paragraph 4 of the Accountant-General's Endorsement No. G. A. 40/18917, dated 6th October, 1909, the Board of Revenue is requested to submit a revised re-appropriation statement.

4. The following letters will be sent to the Residents in Travancore and Cochin and Mysore, to the Hon'ble the Chief Commissioner of Coorg and to the Secretary to the United Planters' Association of Southern India.

(True Extract)

(Signed) A. G. CARDEW,

Secretary to the Government.

Copy of Reference from the Board of Revenue, Revenue Settlement No. 2205, dated 23rd September, 1909.

READ the following paper :—

I.

Letter from M. E. Couchman, Esq., I.C.S., Director of Agriculture, Madras, No. 1418 Dis., dated 11th August, 1909.

Referring to B. P. No. 2396 Mis., dated 17th ultimo and B. P. No. 2206 of 2nd ultimo, regarding Mr. Anstead, I have the honor to report that I have interviewed the Chairman and Secretary of the United Planters' Association of Southern India with Mr. Anstead and to make the following recommendations :—

(1) Relations of Mr. Anstead to the U. P. A. S. I.

Mr. Anstead will be placed entirely at the disposal of the U. P. A. S. I. in respect to his tours and work. He will be subordinate to the Director of Agriculture in all matters relating to his pay, travelling allowance and leave and matters of discipline generally.

(2) His head-quarters may be fixed in Bangalore.

(3) In lieu of appointing an establishment of clerks and peons for Mr. Anstead, the suggestion has been made that the U. P. A. S. I. should provide him with necessary establishment and pay their travelling allowance when they are on tour for a fixed yearly payment of Rs.1,000. As it is not certain that Mr. Anstead's appointment will be a permanent one, I recommend the adoption of this proposal.

(4) The pay and travelling allowance of Mr. Anstead for the current year is estimated at about Rs.10,000, and in the Budget estimate for 1909-10 there is no head under which a saving of that amount can at present be anticipated. It is therefore requested that the Board may be pleased to obtain the sanction of Government for an additional allotment of Rs.10,000 to meet the cost.

II.

Reference from the Board of Revenue, Revenue Settlement No. 2006, dated 30th August, 1909.

The Secretary of the United Planters' Association of Southern India is requested to obtain and transmit the views of his Association on the recommendations made by the Director of Agriculture in items (1), (2) and (3) of his letter.

2. The attention of the Director of Agriculture is drawn to para. 203 of the Madras Treasury Manual, and he is requested to submit in the prescribed form a re-appropriation statement for the sum of Rs.10,000 required to meet the pay and travelling allowance of Mr. Anstead.

III.

Letter from H. Ormerod, Esq., Secretary, United Planters' Association of Southern India, dated 3rd September, 1909.

I have the honor to acknowledge the receipt of your No. 2006, dated 30th ultimo, and to state in reply that this Association fully approves the recommendations made by the Director of Agriculture in his Dis. No. 1418, dated 11th idem.

I would merely add an expression of the hope that the proposed allowance for the Scientific Officer's establishment, which includes an allowance for rent, will be calculated as from the 1st instant, the date upon which the Association entered into possession of the premises wherein Mr. Anstead's office is to be located.

IV.

Letter from M. E. Couchman, Esq., I.C.S., Director of Agriculture, Madras, No. 2600, dated 9th September, 1909.

With reference to Board's Reference No. 2006, dated the 30th ultimo, I have the honor to forward herewith a re-appropriation statement in the prescribed form for the sum of Rs.10,000 required to meet the pay, travelling allowance, &c., of Mr. Anstead.

Reference.—The papers read above will be submitted to Government with reference to para. 2 of their Order No. 1655, Revenue, dated 22nd June, 1909.

2. In the first of the papers the Director defines the relationship of Mr. Anstead to the United Planters' Association of Southern India and recommends that Mr. Anstead's head-quarters may be fixed at Bangalore. He further recommends that, instead of Government giving an establishment to Mr. Anstead, the United Planters' Association of Southern India may, as suggested by it, be permitted to provide Mr. Anstead with the necessary establishment and pay the usual rates of travelling allowance to the members of that establishment when they are on tour, in return for fixed yearly payment of Rs.1,000 from Government.

3. The Secretary to the United Planters' Association of Southern India, whom the Board has consulted has on the subject, states that while fully approving of Mr. Couchman's recommendations, the Association requests that the proposed allowance of Rs.1,000, which includes an allowance for office rent, may be paid with effect from 1st September, 1909, on which date the Association occupied the premises where Mr. Anstead's office is to be located. The Board supports these proposals and submits them for the sanction of Government.

4. The Director of Agriculture estimates the charges on account of the pay and travelling allowance of Mr. Anstead for the current year at Rs.10,000. A re-appropriation statement in the prescribed form is submitted for favour of sanction with reference to para. 4 of G. O. No. 1655, Revenue, dated 22nd June, 1909.

Copy of Endorsement from the Accountant-General No. G. A. 40/18917, dated 6th October, 1909.

Forwarded.

2. As Mr. Anstead has been recruited as a member of the Indian Agricultural Service on the understanding that he will work under the control of the United Planters' Association, Southern India, Bangalore, there is no objection to Bangalore being fixed as his head-quarters.

3. The proposal that Government should contribute Rs.1,000 annually for the pay and travelling allowance of the establishment to be entertained by the United Planters' Association of Southern India is unusual and is not supported by any detailed reasons. As Mr. Anstead is a Government servant it would be more in conformity with precedent for his establishment to be sanctioned by Government and their pay and travelling allowance to be debited to general revenues. If, however, there is any special reason why payment is preferred in the form of an annual contribution to the funds of the U. P. A. S. I. and if Government approve of such a course, there is no audit objection to its being adopted, in which case the establishment will not of course be in Government service.

4. The Board of Revenue may be asked to submit a revised re-appropriation statement as the one now submitted does not take into account the recoveries that will be effected in the current year on account of the pay, &c., of the Scientific Expert.

Bengal Bean.

The Commissioner of Agriculture for the West Indies has kindly asked the Superintendent of Agriculture at Barbados to endeavour to send the U. P. A. S. I. a supply of seed of the Bengal Bean (*Mucuna pruriens*, var.). It is not yet known what quantity will be available or what the seed will cost, but planters who wish to experiment with the above leguminous cover plant are requested to intimate to the Secretary, U. P. A. S. I., the quantity of seed they would wish to have, at a price to be reckoned so as merely to cover cost.

Madras Agricultural Calendar.

In forwarding a copy of the Madras Agricultural Calendar for the year 1910, the Director of Agriculture states that copies in English, Tamil and Telugu can be obtained at a cost of two annas each from his office; from the Superintendent, Government Press, Madras; the Deputy Director of Agriculture, Southern Division, Trichinopoly; the Principal, Coimbatore Agricultural College; and the Deputy Director of Agriculture, Northern Division, Bellary. "The Calendar contains useful information on Agricultural topics, and also all necessary information regarding Thithies, Nakshatrams, feasts, festivals and Government holidays as well as the dates of the chief cattle fairs and Agricultural exhibitions. As wide a circulation as possible is desired for the Calendar, so that the information on Agricultural subjects may reach the hands of as many people interested in Agriculture as possible."

There is certainly a great deal of useful information in the Calendar, and though it has no special value for the planter *qua* cultivator, there can be no doubt that planters might help very materially to advance the good work of bringing the vernacular versions under the notice of Agriculturists in the vicinity of their estates and their labour-recruiting grounds.

Advice and Assistance.

It is notified by the Director of Agriculture, Madras, that "advice and assistance regarding Agricultural matters will be given gratis to all persons interested in Agriculture on application to the Deputy Director of Agriculture, Northern Division, Bellary; the Deputy Director of Agriculture, Southern Division, Trichinopoly; or to the Principal of the Agricultural Colleges, Coimbatore.

"The applicants *need not* enclose a stamp for reply."

Mulching.

The following extracts are taken from an article on "The treatment of soils in 'orchard' cultivation in the West Indies," in the *West Indian Bulletin* of X, 2, 1909. Though this article chiefly refers to the cultivation of Cacao, the treatment recommended, and the arguments adduced in favour of a system of mulching apply equally well to such crops as Coffee and Rubber:—

"Forking between the trees was useful until the roots and branches have extended into the space allotted to them, but after this, unless great care is taken, these may be seriously injured, especially where the soil is dry and not very fertile. Injury also resulted from the use of the hoe, for, although the weeds are removed by its employment, the surface of the soil is made hard and compact, and the level of the latter near the trees is lowered, so that they eventually stand in hollows. Dr. Watts had noticed in some cases that where moisture was abundant, and where weeds consequently grew easily, it was a common practice to cut them down with a cutlass, without any breaking-up of the soil, and to leave them on the surface, the excuse being made that this was the only method available in view either of the scarcity of labour or of the need for economy.

"Observation, however, had led Dr. Watts to conclude that this method had no need of excuse, but was rather to be recommended under certain circumstances, notably where the rainfall was abundant. The chief reasons for this conclusion are best given in Dr. Watts' own words, which are taken from the paper referred to above: 'By such a method, the soil, though quite untilld by implements, remains in a good state of tilth; the roots of the weeds which are killed when the plants are cut down, form air spaces reaching to a considerable depth of the soil; and the earthworms, usually present in abundance in places thus treated, are active agricultural allies. The weeds, spread over the surface, form an excellent mulch, conserving moisture and adding steadily to the store of humus. Indeed, by such a method we approach very nearly to the natural conditions prevailing in a coppice or young forest, where we have the conditions which go to the formation of virgin soil.' In practice, it was suggested that, in the case of young cacao, as soon as the cultivation of intermediate crops had ceased,

the fork may be used until the roots of the young trees began to occupy the soil, and that, then, the periodical growing and cutting of the weeds could be commenced. Thus, in addition to the advantages already stated, there would be the provision of a medium fitted for the undisturbed development of the fine roots of the trees, so that these would become effective in binding the soil together and, in this way, preventing loss by washing during heavy rains. There was no need to confine the plants which were allowed to grow in this way to the naturally occurring weeds, but nature may be aided to a certain extent by controlling the character of the undergrowth and, in this connexion, recourse would obviously be had to leguminous plants. . . .

"In temperate climates, the chief objects in providing a mulch in orchards are to conserve the soil moisture, and to protect the trees from the effects of frost. The first of these is also an important consideration in the tropics, where, of course, the loss from the soil by evaporation is greater. The effect of using mulches for the purpose of lessening this loss may be illustrated by reference to some experiments which were carried out in the United States in Wisconsin. In these a dust mulch was used, instead of a vegetable one, but this makes no difference in the matter under consideration, as the general principle is under review. Three different kinds of soil (*see* Table I) were uniformly packed into iron cylinders 22 inches deep and 1/10 square foot in area, each of which had a water reservoir at the bottom; the height of the soil column was 19 inches. Water was added to the soil in the cylinders until it was nearly saturated, and a soil mulch, made by crumbling soil of the same kind, was placed on the surface. Reference to the table given below will show that there were five experiments, one in which no mulch was employed, and four in which the thickness was from 1 inch to 4 inches. Ten cylinders were used in each experiment, and the whole lot was subjected to three different sets of conditions: in the first they were placed in a case and air was drawn over them; in the second, the conditions were the same, but the air was drawn over the soil more slowly; in the third, the cylinders were placed out of doors and exposed to the sun and air. The mean rates of loss of water, reckoned by weight and as rain, per 100 days, are shown in Table I. Nothing more need be said than that this table shows well the effectiveness of mulching, and that this effectiveness increases with the depth of the mulch, up to a certain point, at any rate.

TABLE I.
Effect of Mulching on Conservation of Soil Moisture.

	Black marsh soil.		Sandy loam.		Clay loam.	
	Loss of water per acre, in tons.	Equal to rain, in inches.	Loss of water per acre, in tons.	Equal to rain, in inches.	Loss of water per acre, in tons.	Equal to rain, in inches.
No mulch ...	620.9	5.48	724.1	6.54	1,779.6	14.83
Mulch, 1 in. deep..	367.0	3.24	397.1	3.51	1,249.6	11.08
Mulch, 2 in. deep...	274.3	2.42	288.8	2.55	1,029.2	9.09
Mulch, 3 in. deep...	248.9	2.11	269.2	2.38	974.6	8.61
Mulch 4 in. deep...	213.8	1.89	251.8	2.22	881.6	7.78

"Another form of conservation which the employment of grass and weeds in the way indicated effects is that of humus. This, as is well-known, is of special importance in the tropics where, at the high temperature which obtains, bacterial life shows its greatest activity and, consequently, where the changes in the soil content are effected most rapidly. On the presence or absence of humus depends the 'condition' of soil, that is its fitness for the successful growth of roots in it. Observation has shown that new roots are readily formed where there is a large quantity of vegetable matter between cacao trees. Lastly, there is a third kind of conservation, that of the soil itself. Where the rainfall is heavy and the cultivated slopes are steep, the soil is washed away wherever there is a heavy downpour of rain. The presence of a thick 'mat' of vegetable debris on the surface of the soil breaks the force of the water falling upon it, and greatly lessens the washing of particles to the lower levels; while, in addition, many of those which are being carried away are arrested in the soil-covering lower down.

"A fourth result of the presence of a mulch in orchards will be to prevent the heating of the soil by the direct rays of the sun, except, of course, where this is already effected by shading. Numbers of experiments by different investigators have shown that there is, for every plant, a temperature at which it grows best, and that fluctuations of temperature may, if of sufficient magnitude, render growth slower. Another consideration arises from the fact that the beneficial soil bacteria cannot exist where there is little or no protection from strong direct sunlight. An illustration of the effectiveness of mulching in keeping the soil temperature from becoming so high as possibly to injure the plants growing in it is given in the *Bulletin of Agricultural Information* of the Trinidad Department of Agriculture from which Table II. is taken.

TABLE II.
Effect of Mulching on Temperature of Soil.

	6 P.M.	Noon.	6 A.M.
Temperature of surface of soil below fairly thick mulch ...	73.4	82.0	74.3
Temperature of surface of soil below very thick mulch ...	...	78.0	73.4
Temperature of soil 1 inch below surface under fairly thick mulch ...	71.0	78.0	73.5
Temperature of bare soil, 1 inch deep ...	71.0	88.0	77.0
Temperature of bare soil, 3 inch deep ...	...	83.0	78.0
Temperature of soil where } 1 inch deep ...	72.0	81.0	75.0
earthworms are working } 3 inch deep ...	73.0	77.0	75.0

The observations were made on soil, with a steep slope and an Eastern exposure, on which no plants were growing. Reference to the table, which is compiled from a large number of observations, will show that a fairly thick vegetable mulch is useful for the purpose; that, as would be expected, the effectiveness of the mulch increases with its thickness, and that such a mulch has more protective influence than the first 3 inches of soil.

"The last important result of keeping a soil well supplied with vegetable matter that may be considered is that of the provision of plant food. This addition will, of course, only take place where plants grown elsewhere are placed on the land, or where leguminous plants are raised. One of the effects of a large amount of humus in the soil is the encouragement of earthworms, and the consequent tillage which is the result of their presence; the lower portions of the soil are brought to the surface by them, and are thus exposed to the action of the weather. This, however, is not the only way in which the food that is locked up in the soil is rendered available. The compounds

formed in humus have the power of uniting with part of the mineral substance in the soil, and of thus hastening the processes by which it is brought into a state in which it can be utilized by growing plants.

"Such theoretical considerations are borne out in nature and in practice. Where mulching with vegetable matter has been carried on for some time, the state of the soil beneath the trees very much resembles that in virgin forests. That this state is of benefit to the plants growing in such a soil is a natural conclusion, and the correctness of it is borne out by the fact that the removal of dead leaves from forests has been proved to result in injury. In temperate climates the practice under consideration, that of cutting the grass in orchards between the trees and allowing it to lie where it falls, or of spreading vegetable matter on the land, has been found to give, in the case of such plants as apple and plum trees, increased returns with a better quality of fruit. In a tropical climate, that of the Federated Malay States, such a practice is strongly recommended by Mr. J. B. Carruthers (Assistant Director of Agriculture, Trinidad) on account of his experience there, rubber-yielding plants being the ones benefited in this case."

South Indian Railway.

Mr. Hudson, Assistant District Traffic Superintendent, has been posted to sub-charge of the Nilgiri Mountain Railway with Headquarters at Coonoor in order to facilitate working and reference in connection with the traffic over that Railway. This appointment affords easy means of reference and communication in regard to planters' transactions with the above Railway.

It is stated further that the value of the mulch method for the treatment of soil in orchards is indicated by means of the increased yields that have been obtained; and that an actual comparison of the growth of the trees, and of the state of the soil on the different plots only serves to uphold the conclusion already reached. "This fact will be best brought out by a quotation from the Dominica Botanic Station Report, 1907-08: 'When the general health and growth of the trees on the plots are taken into account, it is at once seen that the individual trees on the mulched plots are much finer and better developed than those on the other plots. The soil also is better than that of any other plot: it is moist, friable, and full of humus, and in a better condition generally, which appears calculated to ensure good crops for some time to come. It is also significant that the mulched plot is well covered by trees planted at the rate of 108 per acre, while the plot receiving no manure requires 178 trees per acre, or nearly 70 per cent. more.'"

Pepper Vine Disease.

In the course of a tour in the Wynaad in November, in company with Mr. Wm. MacRae, Officiating Imperial Mycologist, Mr. R. D. Anstead, B.A., Scientific Officer to the U. P. A. S. I., addressed a Meeting of the Wynaad Planters' Association. It is not considered necessary that this address should be published, as its contents are virtually embraced in No. XII of "Scientific Officer's Papers" given on another page.

Mr. MacRae's address is, however, given for the information of all growers of Pepper. Speaking on the 17th November, 1909, Mr. MacRae said:—

"The last week has been spent in examining some of the pepper totes affected by pepper vine disease and in making observations in order to plan a programme of work for investigating the disease. The various stages of the *Nectria fungus* which Dr. Butler thought was the cause of the disease have been found. Dr. Butler was most probably right in attributing a minor part to the eelworms whose tubercule-like swellings are commonly found on the roots of the vines. They are probably not necessary forerunners of the disease, though it is possible they sometimes wound and weaken the vines so much, that the fungus has a more favourable field for its operations. It would be interesting to know how common eelworms are on the weeds in pepper estates, and I would be glad if planters would help me by digging up some of the common weeds and

looking for the little swellings on the roots. Specimens of *Ageratum Conyzoides*, of *Sida Rhombifolia*, and of pepper vine with nodules on the roots are on the table and sections of nodules with eelworms may be seen under the microscope. There are also some sections illustrating the peppervine disease for those who are interested. A paper with six questions will be circulated, and I shall be much obliged if the answers be sent to Mr. Anstead, who has kindly consented to collect and forward me the information.

"With regard to the pepper vine disease, much work will have to be done in investigating the conditions of the growth of the fungus in the soil, its method of getting into the roots of the vines and its means of spreading from plant to plant. All of these are at present entirely unknown. Till the life history of the fungus is thoroughly worked out, it is difficult to see one's way through the apparently contradictory experiences of planters. The same treatment seems to have acted differently in different cases. Cultivation and cattle manuring are condemned on the one hand and praised on the other, as the only means of saving the vines. I have been assured that, after a diseased stem and the upper parts of the roots to a depth of about a foot have been removed, new cuttings may be planted immediately and that the percentage of these cuttings that strike is not less than that in places which had not previously supported diseased vines. I have seen many such that are five years old and are still looking healthy. But the reverse is the case in some other places.

"No certain way of lessening the attack has, as yet been found. Direct treatment of diseased vines with a view to kill the parasite, is of no use. Once it gets inside the tissues of the plant, it cannot be got at by fungicides. Treatment of healthy vines to prevent their becoming diseased, is more promising. Liming the soil in the few cases in which it has been tried, seems to have kept the vines in a healthy condition. I would like a definite experiment to be begun this season in at least two places. An area of apparently healthy vines might be chosen; half be left untouched and half be treated with lime. Two pounds of lime per standard might be lightly worked into the soil round the standard to a radius of about six feet. This should be done when the humidity of the air increases before the monsoon breaks and repeated once each month till November. Similar experiments should also be tried with Bordeaux Mixture. When the places have been chosen, further details will be given about the manipulation and supervision of the experiments.

"Meantime, it would be well to pull down dried stems, to dig up the roots as far as possible and to burn the whole. This should be done with all old cases and immediately after the crop is gathered in new cases. Dead vines should on no account be left on the standards as the fungus develops innumerable spores on them. Using dead vine stems to bind bundles of grass and firewood should be forbidden. The red spore masses of the fungus were found on stems that had been used for this purpose and left lying by the road side.

"The real way, however, to combat a root disease of this kind, is to cultivate varieties of pepper vine that are resistant to the disease. As the vines grow very slowly, this kind of work is tedious and definite results may not be available for a long time. A beginning has been made in growing different varieties of vine at the Taliparamba Experiment Station.

"The tea gardens I have visited are fortunately free from fungus diseases with the exception of stump rot. Where it occurs, the diseased bush and the adjacent old stump from which the disease has spread, should be surrounded by a trench two feet deep. Whenever the bush becomes sickly, it should be dug up and burned.

"Should a fungus disease appear on this or any other crop, it is always wise to have it examined early and I shall always be glad to examine any material sent to the Laboratory at Coimbatore."

Scientific Officer's Papers.**XII.—TOUR IN THE WYNAAD.**

Leaving Bangalore on 8th November and returning on 1st December, I made a tour in the Wynaad District and visited the majority of the Estates there. On my way back I paid a short visit to the Government Farm at Taliparamba.

The Wynaad is rapidly becoming a big Tea growing centre, extensive tracts of land are being cleared each year and planted up with this staple. Coffee has almost disappeared, for various reasons, while the amount of Pepper is yearly diminishing owing to the ravages of the wilt disease. There is a little experimental Rubber, but the District is hardly suitable for Rubber, and it grows very slowly.

It is interesting to note that the Bamboo over large areas in the Wynaad has recently flowered and is now covered with seed and beginning to die. A similar thing happened a year or so ago in some parts of South Mysore, and now there is a great scarcity of bamboo. Care should, if possible, be taken when burning the dead clumps of bamboo to destroy as few seedlings as possible, or there is a danger of losing this most useful plant. In South Mysore it is difficult to find a bamboo seedling, as they were destroyed in the general burn, and bamboo land is in many places being taken possession of by Lantana.

Pepper Vine Disease.

I had the pleasure of accompanying, during part of my tour, Mr. W. MacRae, the Assistant Imperial Mycologist, who had been sent from Pusa at the special request of the U. P. A. S. I. to investigate this disease. We visited together a large number of Pepper cultivations and saw the disease in all its stages.

There can be no doubt that, as pointed out by Dr. Butler on a former visit to Wynaad, the disease is due to a fungus which enters the roots of the vine through wounds produced by forking and other means, and which, having gained an entry, grows up the vessels into the stem of the vine, finally choking them up and cutting off the water and sap supply, and so causing it to wilt at the top at the beginning of the dry season, shed its leaves, and finally die. The fungus produces its fructifications on the outside of the stem, breaking through the bark somewhere in the first foot or two above the ground level and forming bright scarlet masses full of single-celled spores. These are disseminated by wind and water and rapidly germinate and attack the vines through the medium of root wounds. Later on another kind of fructification is formed consisting of dark crimson spore cases full of two-celled spores which are able to resist drought and carry the fungus on from season to season. Hence it is most important to burn dead and dying vines to prevent the spores formed on them from being disseminated and spreading the disease.

I could collect no evidence to show whether the Kallivalli or the Balamcotta types differed at all with regard to their disease-resistant powers; probably they do not. The final remedy will probably be found, as Mr. MacRae pointed out in his Address to a Meeting held at Meppadi, in breeding a variety of Pepper highly resistant to the disease. This will take time, indeed many years, to successfully accomplish, but cuttings for new vines should always be chosen from such vines as appear to show disease-resisting qualities, as, for instance, a vine which has remained persistently healthy in the midst of a diseased field, if such can be found.

The investigations which Mr. MacRae proposes to carry out will take perhaps a year or two before any definite conclusions can be arrived at. The experiments which he suggested to test the efficiency of Lime and Bordeaux mixture as curatives and preventatives will, I hope, be carefully carried out by as many Planters interested in Pepper cultivation as possible.

In the meanwhile, pending Mr. MacRae's final Report on the subject, I would advise that the following method of treatment be adopted, I fully discussed this method with Mr. MacRae before he left, and he approves of it. On some totes which I visited similar methods have met with marked success. Any method of combating a widespread disease such as this must be carried out systematically over a long period of time. It is useless to adopt the method for a short time and, because it does not immediately appear to do any good, to abandon it. If the treatment recommended is persisted in, systematically and carefully, I feel assured that it will reduce the annual mortality of the vines very considerably.

In the first place Pepper cultivations should be well drained so as to keep the bases of the vines free from stagnant water. A system of drains, 18 inches deep, will probably be found beneficial.

As a preventative every vine, healthy or diseased, should be sprayed at least once a year with Bordeaux mixture. The bottom three or four feet of the stem should be well drenched with the mixture. This will require about 1-gallon of the mixture for each vine, and it may be applied with a watering can, though it will be found more economical and rapid to spray it on with a Deeming Success Knapsack Sprayer fitted with a Bordeaux mixture nozzle.

As soon as ever a vine begins to show signs of the disease the area covered by the roots should be given an application of slacked lime, at the rate of about 4 lbs. per vine, broadcasted on the surface, and a trench should be dug round it to a depth of about 2 feet, the soil taken from the trench being thrown inside to cover the lime.

Care should be taken about forking round the vines; if done at all it must be done very lightly so as not to wound the roots and form points of entry for the fungus spores. Cattle manure should be applied as a mulch, and covered down with leaves, &c. At the Taliparamba farm leaf-mould is found to be a good fertiliser for Pepper. At all times the vines should be kept heavily mulched, and if this is done no forking will be necessary beyond perhaps breaking up the area just beyond the root spread each year, *i.e.*, forking a circle round the vine outside the range of the roots.

More care might be taken, I think, with advantage to keep the fields clean. I have already alluded to the importance of destroying dead vines; all diseased plants should be cleaned up and burned. On one occasion part of a dead vine covered with fungus fructifications was picked up by the road side, it having evidently been used to tie up a bundle of wood. This serves to show how careful one should be to keep the totes clean, and how easy it is to spread the disease about.

Also it appears to me as if some catch crop could be grown between the Pepper standards. In many cases Coffee was at one time grown, but this has disappeared from one cause and another, and its place has been taken up by a rank growth of weeds and grass. With a failing crop and falling prices it seems reasonable to expect the unused land between the standards to bear its share of the general expenses, and I think that some suitable catch crop such as Cassava (*Manihot utilissima*) or Ragi could be grown with profit. If this is not done, at least it would be a suitable place to grow legumes for seed, in cases where both pepper and tea are cultivated, and so overcome a difficulty (to be alluded to later) which was put before me when recommending such green dressings for Tea.

Tea.

The Wynaad soils, like the majority of the hill soils of Southern India, are deficient in Lime, and will greatly benefit from a systematic application of this material. Shell Lime, which is a good form to use, can be easily and cheaply obtained in Calicut, and I advise a systematic application of slacked lime, broadcasted at the rate of 2 tons per acre. After application the lime should be covered down with a mulch, or lightly forked in (*see S. & Q. Papers IX*). Totes should, if possible, be so divided up that each section receives lime once in every 4 or 5 years.

On some Tea Estates which I visited a problem to be faced is how to get rid of the heavy growth of bad weeds, such as grass, which at present do a considerable amount of harm and are a constant source of expense.

The custom of digging in the monsoon undoubtedly aids the growth of such weeds. Different Estates and different Districts of course require different treatment, and so no hard and fast rules can be laid down about digging, but when weeds are troublesome I would suggest that they be grass-knifed during the monsoon, and that digging be done at the beginning of the dry weather, immediately followed by a thorough pulverisation of the surface soil with some sort of cultivator so as to get a fine surface tilth to act as a mulch and preserve the soil moisture. At the same time a great many of the grass roots can be raked out and collected in nullahs and on traces and burned.

Tea is a deep-rooting crop, and the surface roots which it possesses are active in the monsoon, and may be cut by digging with least damage to the bush in the dry weather. The actual depth at which the Tea is feeding depends a great deal upon how often and how deeply the soil has been dug, and digging in all crops should be limited by the destruction of feeding roots. Thus if the feeding roots are at a depth of, say, a foot, the soil must not be dug deeper than eleven inches, so as not to cut them. In no case should feeding roots be cut or disturbed, if it can possibly be avoided.

The weeds once having been got in hand they should be replaced by a green dressing crop of some definite variety of plant, leguminous for preference.

Green Dressings.

In pursuance of the policy outlined at the Annual Meeting of the U. P. A. S. I. in August, I paid special attention to the leguminous plants to be found in the local flora likely to prove useful for green dressings, since it is much more easy and economical to establish a legume which is a native of the District than to introduce one from another District or country.

A number of suitable plants were found, and these were collected and will be named as soon as possible. The best was a plant found growing commonly in the swamps, where it reaches a height of eight feet or more, but in Tea it would not grow so high. The botanical name of this plant is *Sesbania aegyptiaca*, and it is known locally under several names, such as *Pulian Nellie*, *Harri Nellie*, *Chemberry Shetty*. It is very similar to another *Sesbania*, which Dr. Mann highly recommends as a green dressing for tea under the name of *Dainchu*. The Tea should be clean weeded at the beginning of the monsoon and the seed sown thickly. By the end of the monsoon the plant will probably be about four feet high, when it may be cut over and either buried, or laid on the surface to form a mulch.

The establishment of a green dressing is especially beneficial in young tea clearings where a large area of soil is apt to be exposed to wash and sun. The secret of success is to sow the seed very thickly, and in the first year to give it one weeding if necessary. The chief difficulty lies in obtaining a sufficiency of seed to sow down large areas. Most Estates, however, have a certain amount of waste land attached to them which might be utilised as nurseries for the legumes where they could be allowed to run to seed which would be collected, and, as suggested above, when pepper is grown legumes might be grown for seed between the standards.

Another plant found in quantity in the District is *Cassia mimosoides*, the Kanarese name for which is, in South Mysore, *Card Poot Hulloo*. It is a plant of spreading growth, reaching a height of about 18 inches, with finely divided pinnate leaves and a yellow flower, and it would be very suitable for young tea.

Dr. Barber, the Government Botanist, Madras, in his pamphlet on the Tea Eelworm, states that this plant is liable to attack by eelworms which might spread to the Tea. As, however, he also remarks that in nurseries infected with eelworm, plants one, two, and three years old stood out conspicuously healthy among the rest it would appear that the eelworm can only attack young Tea seedlings, and that by the time they are planted out in the field their root system is deep enough to avoid the eelworm. This is supported by

the fact that the commonest weed in young clearings is Goat Weed (*Ageratum mexicanum*), the roots of which are nearly always covered by eelworm galls, and yet the young tea plants are unattacked. However, in the light of Dr. Barber's warning any experiments undertaken with *Cassia mimosoides* must be conducted with due regard to this point, and a careful watch kept for possible infection of the tea before we can finally decide that this plant is a good one to adopt as a green dressing.

Several other suitable plants were found, the names of which are at present unknown to me. I should like to see a number of definite experiments over areas of an acre or more tried with these different plants in order to test their several qualities as green dressings.

Diseases.

With the exception of the Pepper, the crops in the Wynaad are singularly free from diseases of all kinds, and I trust that this happy condition of affairs may long obtain; but a most careful watch should be kept for the first appearance of any disease.

A disease introduced into a healthy District like the Wynaad would spread very rapidly, being free from its natural enemies and with an abundance of food. When diseases first appear they are usually in isolated places and on a small area and they can then be comparatively easily dealt with and stamped out. If a pest is to be eradicated *immediate* treatment is the most important part of the process, and at the very first appearance of disease prompt measures should be taken to deal with it. Pests which are neglected on the "too-much-trouble" theory and allowed to get a firm hold are extremely difficult and costly to eradicate.

In conclusion, my sincere thanks are due to Mr. B. Malcolm, the Honorary Secretary of the Wynaad Planters' Association, for his kindness and hospitality, and for the excellent arrangements he made to facilitate my tour, enabling me to visit a large number of Estates typical of the District.

RUDOLPH D. ANSTEAD, *Scientific Officer.*

Tea in the Kachin Hill Tracts.

In the course of a Report by Mr. C. K. Davis, Civil Officer, on the "Cultivation of Tea in the Kachin Hill Tracts of Katha, Burma," it is remarked that an enterprising Shan "has now discovered that tenderness and care are wasted on the seed, a handful of which, if thrown into a clump of plantain, gives excellent results. The seeds germinate readily and displace the plantain which is cut away. It is noticeable, however, that the tea gardens are only found where the water easily drains away and there is much shade.

"The following method is adopted by the Kachins in raising plants from seed. Seed collected is sown just before the rains commence in circular beds of two feet diameter. The earth is dug up a span or two and in the deeper holes stones are placed at the bottom. The seeds are then thrown in and covered over with the earth which has been excavated. Dried leaves are sometimes thrown in. No further attention is paid.

"At the beginning of the following rains the seedlings have attained a height of from 6 to 10 inches. They are then transplanted. Fair-sized stakes are fixed to the earth to mark the locality of the little plants and to protect them from being trampled on by cattle. In some cases the seedlings are not transplanted till they are two years old.

"Like teak seeds, tea seeds are said to come up spontaneously after a clearing has been fired. Seeds that have been scattered by Nature and buried under dried leaves and twigs have then a chance of springing up. In many places lands devoted to taungya or shifting cultivation have developed into tea plantations.

"Three years after transplanting, the Kachin nips off the tops of the young plants by way of pruning them. The following year they are ready to be picked. Frequent picking without pruning gives a fair yield, and the Kachin is satisfied."

DISTRICT PLANTERS' ASSOCIATIONS.

Anamalai Planters' Association.

Abstract of the Proceedings of the General Committee of the Anamalai Planters' Association at a Meeting held at the Puthuthottan Bungalow, on Monday, the 8th December, 1909.

Present.—Messrs. C. R. T. CONGREVE, G. L. DUNCAN, G. A. MARSH, A. H. SHARP, E. W. SIMCOCK, and C. H. BROCK (*Honorary Secretary*).

Mr. E. W. SIMCOCK was voted to the Chair.

1. *Prevention of Coffee Thefts*.—READ and recorded letters to the Sub-Inspector of Police, Kottoor, and to the District Superintendent of Police, dated 9th November, 1909, with reference to the Roads and Paths which require patrolling, and replies from Superintendent of Police, dated 14th November, 1909, and the Sub-Inspector, Kottoor, dated 26th November, 1909, approving of the suggestions made.

2. *Warrants*.—READ letter, dated 11th November, 1909, to the Superintendent of Police, complaining of glaring cases of warrants not having been served when they should have been, and his reply, dated 16th November, 1909, requesting that all cases of unjustifiable non-service of warrants may be brought to his notice without any delay and that he was taking steps to have the reasons for the return of unexecuted warrants to be carefully recorded. The Committee expressed their hope that all members would comply with the request of the Superintendent of Police, and expressed their thanks to the Superintendent of Police for the arrangements that he has made.

3. *Leases*.—READ and recorded letter to the Collector, dated 11th November, 1909, asking what was the reason of the continued delay in issuing the Leases when apparently all points at issue have been satisfactorily concluded. The Committee regretted to note that no reply had been received from the Collector, and the Honorary Secretary was instructed to write to the Collector again on the subject.

4. *Proposed Hospital*.—READ and recorded letter from the President of the Taluk Board, Pollachi, dated 14th November, 1909, intimating that the subject of the proposed Hospital would be considered at the ensuing Budget Meeting of the District Board. As the Budget Meeting has been held, the Honorary Secretary was instructed to write and ascertain what steps have been taken by the District Board.

The Estates represented at the Meeting agreed to subscribe to the proposed Hospital at the rate of 3 pies per acre per month, and so enable the Estates concerned to subscribe Rs.100 a month towards the upkeep of the proposed Hospital and Apothecary. The Honorary Secretary was instructed to write to the District Medical Officer to this effect.

5. *Illicit Liquor Traffic*.—READ letter dated 24th November, 1909, from the Assistant Commissioner, enclosing the Coimbatore Inspector's Report. The Honorary Secretary was directed to reply in accordance with Mr. Simcock's statement as to the effect of the case.

6. *Public Bazaar and Chuttrum*.—READ and recorded letter to the Collector, dated 11th November, 1909, with reference to the proposal for establishing Public Bazaar and Chuttrum on the Anamalai Hills. The Committee regretted to note that no reply had been received, and the Honorary Secretary was instructed to write to the Collector again on the subject.

7. *Renard Road Train*.—READ letter from the Secretary of the U. P. A. S. I., dated 8th November, 1909. The Honorary Secretary was instructed to reply giving further details of the traffic, especially as regards that between Coimbatore and Pollachi.

8. *Telegrams*.—READ and recorded U. P. A. S. I. Circular No. 92, enclosing letter from the Director-General of Telegraphs. The Honorary Secretary was instructed to write to the Director-General of Telegraphs, requesting a reply to this Association's letter to him, dated 23rd September, 1909.

9. U. P. A. S. I.

- (a) *Postal Delays*.—READ and recorded U. P. A. S. I. Circular No. 95, announcing that the old arrangement for the conveyance of the Mails in certain parts of the Madura District will be reverted to.
- (b) *Roads and Communications*.—READ and recorded U. P. A. S. I. Circular No. 87, intimating that Government are not prepared to continue the construction of Feeder Roads on the Shevaroy's, and that a design for the proposed Theni Bridge is under construction.
- (c) *Thefts of Tea*.—READ and recorded U. P. A. S. I. Circular No. 88, intimating that Government are not prepared to undertake legislation in the direction proposed.
- (d) *Duty on Tea*.—READ and recorded copy of letter from U. P. A. S. I. to the Government of Madras, dated 1st November, 1909.
- (e) *Labour*.—READ and recorded U. P. A. S. I. Circulars Nos. 89, 93 and 94. The Committee expressed their strong approval of the Chairman's suggestions that a Mass Meeting of Planters be called to discuss the subject of Labour Recruiting and Emigration, and can promise full representation at the Meeting from the Anamalai District. The Committee, however, were of the opinion that at least 10 per cent. of the members of every District Association should be present at the Meeting, and that, unless this attendance can be assured, the Meeting will not be representative enough to be of any use at all.

10. *Labour Rules and Rates*.—The Committee there proceeded to draft some District Labour Rules, and compiled a List of Rates usual in the District. These rates are for the guidance of members, and are not to be taken as compulsory. The Honorary Secretary was instructed to have the Rules and Rates printed and circulated to all members for their information.

A vote of thanks to the Chair terminated the Proceedings.

(Signed) E. W. SIMCOCK, *Chairman*.

(Signed) C. H. BROCK, *Honorary Secretary*.

PAPERS LAID ON THE TABLE.

Report of the Talliparamba Agricultural Estate for 1908-09.

Indian Tea Association General Committee Proceedings, dated 19th October, 1909, 2nd November, 1909, and 16th November, 1909.

Planters' Chronicle for November.

Proceedings of Agricultural Society of Trinidad and Tobago for September.

Kanan Devan Planters' Association General Meeting Proceedings, dated 23rd October, 1909.

Ceylon Planters' Association Committee Proceedings, dated 12th November, 1909.

Malay Planters' Association General Meeting Proceedings, dated 31st October, 1909.

Shevaroy Planters' Association.

Proceedings of Quarterly General Meeting held at the Victoria Rooms, Yercaud, on 8th December, 1909.

Present.—Messrs. S. CAMPBELL, W. RAHM, C. RAHM, J. C. LARGE, V. TRAVERS-DRAPE, G. TURNER, C. G. LECHLER, W. I. LECHLER, R. GOMPERTZ, A. B. KUNDASWAMY, and CHAS. DICKENS (*Honorary Secretary and Chairman*).

1. The notice calling the Meeting was taken as read.

2. Mr. C. Imray, Nagalur District, was elected a Member of the Association.

3. *Passing of Accounts.*—The accounts for September, October and November were examined and passed.

4. *Grass Permits.*—READ letter from Mr. J. C. Large, bringing to the notice of the Association the great inconvenience of the cumbersome method of the Forest Department insisting on each cooly attending the place of issue for each Grass Permit.

Proposed by Mr. J. C. Large, and seconded by Mr. G. Turner: "That the D. F. O., Salem, be requested to issue a number of Grass Permits through the Honorary Secretary of this Association, as is now done with Bamboo Permits."—*Carried unanimously.*

5. *Delayed Mails to Yercaud and Nagalur.*—*Resolved*—"That the Honorary Secretary be requested to write to the Postmaster-General, bringing to his notice the late arrival of the Mails at Yercaud and Nagalur."

6. READ letter No. 87/09, dated 12th November, from the Secretary, U. P. A. S. I., informing this Association that Government are not prepared at present to spend any more money on the construction of Feeder Roads on the Shevaroyas.

The following Books and Papers were laid on the Table:—

Government Order No. 1500, dated 4th November, 1909, with reference to Coffee Stealing Prevention Act.

Two Copies relating to Cattle of S. India, by Lieut.-Col. W. D. Gunn. Scientific Report of the Koilpatti Agricultural Station, by H. C. Sampson.

Do. do. Bellary Agricultural Station, by R. Cecil Wood.

The Planters' Chronicle for November, 1909.

Various Tea Circulars; also

7. READ and recorded the following Circulars from Secy., U.P.A.S.I.:—

Circular No. 60/09, dated 23rd August, 1909.			
Do.	No. 62/09	do.	26th do.
Do.	No. 64/09	do.	28th do.
Do.	No. 65/09	do.	30th do.
Do.	No. 66/09	do.	30th do.
Do.	No. 67/09	do.	1st September, 1909.
Do.	No. 68/09	do.	6th do.
Do.	No. 69/09	do.	17th do.
Do.	No. 71/09	do.	21st do.
Do.	No. 72/09	do.	24th do.
Do.	No. 74/09	do.	27th do.
Do.	No. 75/09	do.	28th do.
Do.	No. 76/09	do.	28th do.
Do.	No. 77/09	do.	29th do.
Do.	No. 78/09	do.	2nd October, 1909,
Do.	No. 79/09	do.	4th do.
Do.	No. 80/09	do.	9th do.
Do.	No. 81/09	do.	11th do.
Do.	No. 82/09	do.	14th do.
Do.	No. 83/09	do.	20th do.
Do.	No. 84/09	do.	23rd do.
Do.	No. 85/09	do.	2nd November, 1909,
Do.	No. 86/09	do.	5th do.
Do.	No. 89/09	do.	16th do.
Do.	No. 90/09	do.	22nd do.
Do.	No. 91/09	do.	23rd do.
Do.	No. 92/09	do.	29th do.
Do.	No. 94/09	do.	1st December, 1909.
Do.	No. 95/09	do.	1st do.
Do.	No. 96/09	do.	3rd do.

(Signed) CHAS. DICKINS,

Honorary Secretary and Chairman, S. P. A. S.

Wynaad Planters' Association.

Proceedings of a General Meeting held at Meppadi Club, 8th December, 1909.

Present.—Messrs. ABBOTT, BEHR, BISSET, EWART, POWELL, TROLLOPE, and MALCOLM (*Honorary Secretary*).

Mr. ABBOTT in the Chair.

The Proceedings of the last Meeting were confirmed.

With reference to the Notice of the Election of new Members it was recorded that these would be elected at the January Meeting and not at this Meeting.

Roads.—READ letter of November 19th, 1909, to President, Taluk Board.

READ letter of November 28th, 1909, to President, Taluk Board; and Honorary Secretary's letter of November 30th. Recorded with reference to Road 31/A that the Association sees no objection to this being taken over and worked departmentally.

Also recorded letter of December 1st, 1909, from the Association Member on District Board, to President, District Board.

District and Taluk Board Member.—READ letter of November 28th to the President, District Board.—*Recorded.*

Labour Act.—READ letter of November 15th, from the District Magistrate, Malabar, and Honorary Secretary's reply of November 28th. Recorded, and resolved that a summary of these be printed for Members' information when the correspondence is concluded.

READ letter of November 28th to District Magistrate *re* C. C. No. 324 of 1906 and C. C. No. 242 of 1907 brought up by Mr. Bisset.—*Recorded.*

Transport.—READ letter of November 21st from Mr. Mead *re* weight of traffic between Gudalur and Calicut. The Honorary Secretary was instructed to collect statistics, in the first instance, if possible from the Agents concerned.

Mr. Douglas Jackson.—READ letter from Mr. D. Jackson, resigning the Association, as he had left the District.—*Recorded with regret.*

Pepper Disease.—READ letter from Mr. Anstead, dated December 2nd, enclosing memorandum of the experiments he and Mr. MacRae wished undertaken.

The Honorary Secretary was instructed to enquire who would undertake the several experiments, as several Members interested were not present.

The Honorary Secretary reported that Messrs. Anstead and MacRae's Addresses to the last Meeting of the Association were in the Press and would be issued shortly.

U. P. A. S. I.—Circulars 89/09 to 90/09 inclusive were read.

Regarding Circular No. 89/09. The Meeting thinks the present position of recruiting unsatisfactory, but is not prepared to accept Mr. Brock's scheme.

Regarding Circular No. 93/09. The Association does not think the suggestion of holding a Mass Meeting of Planters feasible.

Mr. W. E. Glennie.—READ correspondence *re* Mr. Glennie's request to be empowered to attest Contracts.—*Recorded.*

A vote of thanks to the Chair terminated the Proceedings.

(Signed) C. E. ABBOTT, *Chairman.*

(Signed) B. MALCOLM, *Honorary Secretary.*

Papers on the Table.—Notice of sales of Minor Produce.

Proceedings of Anamalai Association Meeting.

A Special Meeting was held at 4 p.m. on December 8th, 1909, to vote for the election of the Planting Member of Council.

Present.—Messrs. ABBOTT, BEHR, BISSET, EWART, POWELL, TROLLOPE, and MALCOLM (*Honorary Secretary*).

Mr. ABBOTT in the Chair.

The vote was taken, and the Chairman declared the Hon'ble Mr. J. G. HAMILTON had been elected by this Association unanimously.

(Signed) C. E. ABBOTT, *Chairman.*

(Signed) B. MALCOLM, *Honorary Secretary.*

Nilgiri Planters' Association.

Proceedings of General Meeting held at Coonoor, on 11th December, 1908.

Present:—Messrs. L. L. PORTER, H. P. HODGSON, T. J. KENNA, S. BAYLEY, J. H. PASCOE, A. W. BRODIE, F. M. COCKBURN, W. RHODES JAMES, A. F. VANSAGNEW, A. W. CHERRY, F. H. BUTCHER, P. M. SATHASIVA MOODELLIAR, A. S. CRUM, E. F. BARBER.

By Proxy.—Messrs. W. H. CHURCH, D. COCKBURN and W. C. DEANE.

Mr. PORTER was voted to the Chair.

1. Mr. J. G. Hamilton was unanimously elected Planting Member.

2. *Planters' Benevolent Fund.*—Proposed by Mr. Pascoe and seconded by Mr. Bayley: "That the thanks of the Association be conveyed to Mr. J. A. Richardson for the trouble he has taken in drafting the Rules"—*Carried nem con.*

Thirteen Members present at the Meeting decided to subscribe.

3. *Pest Act.*—Proposed by Mr. Rhodes James and seconded by Mr. VansAgnew: "That this Meeting consider the introduction of a Pest Act would be impracticable owing to the condition of the District."—*Carried.*

Remission of Assessment.—It was decided to ask the Collector to grant remission of assessment to Coffee Estates attacked by Bug to such an extent causing a failure of crop, on application for such remission by the individual sufferer.

4. *Act I of 1903.*—Proposed by Mr. Hodgson and seconded by Mr. Sathasiva Moodelliar, in answer to the questions asked by the Anamalai Planters' Association:

(a) "That this Association does not consider existing conditions of Labour recruiting to be satisfactory."

(b) "Before any fresh legislation in labour matters of any kind will be considered by Government Act I of 1903 will have to receive more general acceptance by the Planting District of Southern India. This is certainly the case, and has been recently emphasized by His Excellency the Viceroy in his reply to the Planters of Mysore."—*Carried 12-4.*

5. It was decided that the matter of Labour Rules for the District be dropped.

6. It was decided that Members of the Nilgiri Planters' Association who are also Members of the District Board should meet at 9-30 A.M. before the District Board Meeting in February.

7. *Non-service of Warrants.*—Proposed by Mr. Pascoe and seconded by Mr. Crum: "That the action of the Honorary Secretary in the matter be approved, and that the District Magistrate of the Nilgiris and Malabar be requested to be so good as to permit a Return showing the number of warrants issued under Act I of 1903, during the past year, and the number returned as not served."

8. A letter from Mr. Nicholson was read, and the Honorary Secretary was requested to address the Planting Member on the matter.

9. A letter from Mr. J. McKenzie was recorded.

10. *Scientific Officer.*—The subscription account was recorded.

11. *History of Planting Districts.*—It was decided to send a copy of the District Manual to the Secretary, U. P. A. S. I.

12. *Tea Theft.*—The letter from Government was read and recorded.

(Signed) E. F. BARBER, *Honorary Secretary.*

INDIAN TEA ASSOCIATION, CALCUTTA:

Extract from an Abstract of the Proceedings of a Meeting of the General Committee held on the 30th November, 1909.

Correspondence with the Indian Tea Association (London).—Letters of 5th and 12th November from the Secretary, Indian Tea Association (London), which had been previously circulated, were now ordered to be recorded. The principal subjects dealt with in these letters were as follows:—

- (a) *Map of the Tea Districts.*—Mention was made by Sir James Buckingham of a proposal recently made by Mr. Taylor, Calcutta, to prepare a set of up-to-date maps of the several tea districts. The maps, one for each district, would be bound together, and there would be marked on each the names of the gardens, while rivers, railways and roads would be indicated in distinct colours: in addition, a complete index would accompany the book of maps, giving a general list of all gardens, with the names of the nearest railway or river station and the nearest Post and Telegraph Office.
- (b) *Tea Samples.*—The London Association had had some correspondence with the Postmaster-General on the subject of the posting of tea samples, and a copy of a letter from him had been forwarded by Sir James Buckingham. This pointed out that under the regulations of the Postal Union, to which the Department had to conform, samples of merchandise were not admissible at a reduced rate of postage unless so packed as to admit of easy inspection. In some recent cases the samples contravened this regulation and had been stopped in the post. The Postmaster-General had, however, given instructions that for the next three months samples packed in the manner in question should be delivered without surcharge; and he proposed to invite representatives of the trade to meet him with the object of arriving at some agreement as to a method of packing tea samples which would meet the requirements of the trade and at the same time conform to the Postal Union Regulation.

Indian and Ceylon Import Duties on Tea.—A letter of 12th November from the Secretary of the United Planters' Association of Southern India was to be recorded. With it there was forwarded for the information of the General Committee a copy of a letter which had been submitted to the Government of Madras embodying a Resolution carried at the Annual Meeting of the Association in favour of the raising of the Indian Import Duty on tea to 4 annas a pound.

Extracts from an Abstract of the Proceedings of a Meeting of the General Committee held on 14th December, 1909.

Correspondence with the Indian Tea Association (London).—Letters of 19th and 26th November from the Secretary, Indian Tea Association (London), which had been previously circulated, were now ordered to be recorded. The principal subjects dealt with in these letters were as follows:—

- (a) *Tea Samples.*—This matter was dealt with in the Proceedings of last meeting. In continuation of what he had written, as then recorded, Sir James Buckingham mentioned in his letter of 19th November that a small deputation had waited on the Postmaster-General and had had an interview with his Secretary. The discussion had turned on the kind of tin used for carrying tea samples, the China section of the deputation advocating a hermetically closed tin with a double lid, the inner one being cut by a cutter fixed to the cover. Nothing definite in regard to the matter was settled.

INDIAN TEA CESS COMMITTEE

Advertising in America—1909-10.

The following report by Mr. R. Blechynden, the representative of the Indian Tea Cess Committee in the United States, upon the work done during the second quarter of the season 1909-10 is published for general information.

(Signed) H. M. HAYWOOD,

Secretary.

Indian Tea American Advertising Fund

Season 1909-10.

REPORT FOR SECOND QUARTER.

I beg to submit my report for the three months ending 30th September, the second quarter of season 1909-10.

2. When only annual reports were submitted it was requisite to re-state the details of the Advertising System so as to keep them clearly before the Committee. With quarterly reports these details can be omitted and it is sufficient to say that the system, fully described before, has been closely adhered to during the period under review.

3. Two of the specialty men have been at work in Michigan and Wisconsin, adjoining States upwards of a thousand miles north of St. Louis bordering on Canada. These States have been considered especially Japan tea territory, but I have been agreeably surprised to find that in the mining section bordering on Lake Michigan, where there are colonies of Cornish and other British miners, the leading packet tea firms are doing a fair business. Some American packet tea houses appear to have made special efforts to capture this trade from their British rivals, but without success.

4. The third specialty man has been most of the time in Denver, Colorado, about a thousand miles west of St. Louis. This city has been a difficult one to work on account of local conditions into which I need not enter here. Work has been slow and the average quantity of tea bought has been low; yet we have succeeded beyond the expectations of our friends and have the tea now in about 270 stores, including sales made to the 15th October when we closed our operations, having secured practically every grocer there.

5. I visited Denver in September and made an alteration in the offer salesmen make to grocers. The concession is that they can take orders part for immediate and part for future delivery, the grocers mailing list to be based on the entire order. This is intended to meet the conditions existing in the State of Colorado, where on account of the natural obstacles to travel presented by the Rocky Mountains, salesmen do not visit their territory as frequently as they do in other places. The offer we now make is liable to some abuse, and orders may be given for future deliveries merely to get the additional advertising, after which the futures may be cancelled, but if the tea promptly delivered is moved out by our efforts, this will not happen. The trial made so far has shown good results and will be dealt with in my next report.

6. The reports of our specialty men show that during the quarter ending 30th September 610 sales were recorded, aggregating 37,290 lbs. The number of sales were less than in the previous quarter, but there was more tea sold. The late summer is the time when the salesmen everywhere take their annual vacations and these, together with the very slow progress of work in Denver, account for the fewer sales made in the quarter.

There has been no check to the work done in the office and this quarter shows an increase both in the postcards and samples mailed :—

			Postcards.	Samples.
July	...	...	12,580	15,503
August	...	...	12,799	9,937
September	...	...	11,922	12,055
Total...			37,301	37,495

The number of pieces of advertising mailed in the quarter as above was 74,798 against 56,630 in the previous quarter.

7. It is now possible to review the results of work done in the first quarter, during which period over one thousand grocers bought black India tea. The advertising we undertook to do has all been done and newspaper advertising is continuing ; samples of these are attached.

The postcards from Calcutta are now beginning to reach consumers, and we expect to have additional results from these.

8. Quite a number of grocers have given repeat orders, and some have repeated more than once, but, as we give no special advertising for this, jobbers do not keep us advised nor can we trace the orders secured by the other jobbers.

9. On the other hand, there have been very few, probably less than a dozen, complaints. In such cases grocers return the tea to the jobber, who is usually prompt to advise us of the fact, with a view to getting some additional advertising from us. In the few instances referred to we are sending the grocers' customers another set of cards, out of a new lot just received from the printers.

10. The experiment with iced tea was brought to a close at the end of September, with the passing of summer. The trial was made through two methods, one was a kiosk in an open air proprietary garden in the suburbs, where there is music, a casino, a theatre, switchbacks and other amusements and side shows. As mentioned in my last report the kiosk did not begin to pay expenses and we shared this experience with other vendors of iced drinks in the grounds. In other seasons such people have made money and they ascribe their failure to do so this season to the management for the first time charging an entrance fee of 10 cents. ; for while this kept the attendance more select, there were fewer people who did not take the refreshments they wanted at the high priced casino. The kiosk remains on the grounds, and as it is expected that no entrance fee will be charged next summer, we will be in a position to give it another trial, if we so desire.

11. The other method we used was selling prepared tea in five-gallon bottles to eating-houses. We supplied an apparatus to hold ice, suitably fitted, so that the bottle can be inverted on this receptacle, and the tea drawn off iced as it passes through a coil. We secured about a dozen regular customers, although at times we had many more who dropped off after a longer or shorter time and either made tea in their own way or themselves adopted our system. On an average we prepared from 80 to 100 gallons of tea each day.

12. The experiment was started with the idea of getting it into running order and then handing it over to some individual, or a small company, to work as a business. We have, I think, cleared the way for this, and I hope to develop the plan on these lines early next summer. We have the apparatus and outfits and in proper hands the scheme can be worked.

13. We arranged with a large Furniture House here, in St. Louis, who had just moved into a new building, to serve iced tea to their customers and visitors during their opening week. Later the idea was extended and they are now serving hot tea in the afternoon and will continue to do this as long as they find it popular. We have supplied them with urns, tea-pots and spoons, held over for such use since the exhibition. They provide their own attendants and the cream and sugar. We will continue to supply them with the tea they use as this keeps us in touch and admits of our seeing they run

things properly. They have published many advertisements in which they allude to India tea being served. They also sent out five thousand cards of invitation in which they mentioned India tea.

14. In my last report I mentioned a trial then being made with Indian green tea in connection with the sale of black tea. The results can now be summarised. Twenty-three places where black tea alone had been offered and sold were re-visited by the same salesmen. The first trip occupied from 4th June to 15th July. No green tea was offered and 160 grocers in 23 places bought 6,836 lbs. of black tea. The second trip was from 19th July to 3rd September so that about six weeks intervened between visits. In the second trip 49 new customers were secured and 44 of the customers made on the previous trip again bought tea, thus making 93 sales on the second trip. These 93 sales comprised 3,330 lbs. of black tea and 10,960 lbs. of green tea, or say 14,000 lbs. of tea placed where no further business could be done with black tea alone.

It therefore appears that where India green tea can be sold in connection with black, that the number of black tea sales can be increased by about 1s. 3d. and the amount of black tea sales by about one-half, while the gross sale of tea is doubled.

15. We are now concluding the trial of Indian green tea. The condition I desire to impose for this was that green tea was to be sold only on the condition that a minimum of 25 per cent in addition of black tea was taken; otherwise no advertising would be given. The jobbing house through whom we are working missed the spirit of this condition and in instructing their salesmen made the condition applicable to the territory and not strictly to each individual sale. The work is being done 1,000 miles from here and as the men travel from place to place it is not easy to keep in such close touch with them that plans can be changed *en route*. Such changes are apt to lead to confusion and cross-purposes, so matters will be allowed to go through as started. The reports show that the proportion of black sold to green, is much above the proposed *ratio*.

16. No further experiment will be made with green tea. We have now collected sufficient data and if any of our friends hereafter obtain a sufficient supply by an order to manufacture, or otherwise, we will know how to co-operate with economy and to our mutual benefit.

17. With the newspaper clippings already referred to I attach a few others to illustrate the more frequent reference to iced tea in advertisements of tea, &c.: the fact that India tea is being advertised by some under its own name, and in one instance that a packet is advertised sometimes as India and Ceylon tea and sometimes as India tea, confirming what I have so frequently stated that the products of the two countries are not recognized as being in any way different. A variant of this advertisement is Ceylon India tea; the word "and" being omitted. The name on the packet is not always a safe index to the contents.

Another point illustrated by the clippings is that our activity causes a general effort to be made to sell packet teas. This is shown in the page from the Minneapolis paper where three different grocers advertise two standard brands on the same page 19. In my last report I give the official figures showing the importations of tea into the United States for the 11 months ending 30th May. I now give the figures for the 12 months ending June 30th against those ending June 30th, 1908.

The large general increase in importations reflect the fear that was entertained that the new tariff would include a duty upon tea. But the increase in the importations in India and Ceylon tea is not only relatively greater than the increase shown by other countries, but the actual increase in the importations of India and Ceylon tea is as great as that of all other countries combined.

The figures in the table given below proclaim more forcibly than mere words can do the hold India and Ceylon teas are getting on the United States market :—

Importations of Tea into the United States 12 months ending 30th June.

Countries of Production.	1908.		1909.		Increase.	
India and Ceylon.	19,241,271	20·4	29,499,234	25·6	10,257,963	53·4
China and Japan.	74,237,708	78·8	84,130,371	73·2	9,892,663	13·3
Other Countries.	670,585	·7	1,286,915	1·1	616,330	92·0
Total...	94,149,564	..	114,916,520	...	20,766,956	22·0
Exports...	1,046,474	...	759,083	*	287,391	*27·6
Net Imports...	93,103,090	...	114,157,437	...	21,054,347	22·6

* Decrease.

Canker in Para Rubber.

OBSERVATIONS BY MR. PETCH.

The original "Canker" of Hevea has not been much in evidence during the last three or four years, but several cases were notified during the prolonged rainy season of this year, and the subject is being re-investigated. It has been determined that in many cases, probably in the majority of cases, the death of the bark in patches after the tree has been scraped before tapping is due to "Canker," sometimes assisted by deeper scraping than should be allowed. But the most general symptoms exhibited during the current year differ completely from those previously recorded. The disease attacked the renewing bark on the surface which was being tapped. The bark showed numerous vertical black lines, and on cutting it out these lines were found to extend into the wood. These black lines may be found on the cambium before they are evident externally. The bark round these lines decays, leaving a narrow vertical wound. Sometimes adjacent patches coalesce, and the whole of the renewing bark decays. In most cases the disease does not extend downwards as rapidly as the bark is exercised during tapping, and it is therefore possible to continue tapping, although the tree is diseased. With the advent of drier weather the disease stops and the bark renews over the wounds, but, as it has to grow in from the edges of the vertical wounds, the renewed bark is rough. Except for this rough bark, there is no permanent injury to the tree.

THE CAUSE

of Hevea Canker cannot be said to have been determined. Four organisms have been found fairly regularly in the diseased tissue. Two of these are in all probability only saprophytic and are not being considered at present; the other two are a Bacterium and a Nectria. The evidence of the diseased tissue seems to point to the Bacterium as the cause, since it is always found in advance of the Hyphæ of the Nectria, and the discolouration of the wood is identical with that in the Bacterical cultures. But inoculations with both these organisms have so far been unsuccessful. The Bacterium has been isolated and grown in pure cultures, but an attempt to produce "Canker" by inoculating tapped surfaces with Bacteria from these cultures has proved a failure up to the present in the case of the Nectria, the ripe spores were caught as they were ejected from the fructification, and these were proved capable of germination by sowing them in the culture solutions; but no success has yet followed the inoculation with these spores.—T. PETCH, B.Sc., in the *Tropical Agriculturist*.

RUBBER.

A NEW LEGUME.

Writing on November 25th to the *Malay Mail*, Mr. Phil. Beaver, of Sholarock Estate, Nilgiris, remarked:—

I shall feel greatly obliged if you will kindly publish the following in your esteemed columns. Mr. J. B. Carruthers, Director of Agriculture and Government Botanist, Federated Malay States, in his Report for 1908 on cover plants, sums up his *ideal* plant as follows:—

"The ideal plant for the purpose of protecting rubber land and eliminating or reducing very considerably the weeding bill is a plant which grows not more than a foot to 18 inches high, is permanent for three or four years, producing shade over the ground, growing so luxuriantly as to exclude weeds, without forming a thick turf, is leguminous, has no thorns or spikes to interfere with coolies working, has no leaves, fruit or flower which will attract vermin or other animals. None of the plants at present in use or being tried in the experimental plots of the Agricultural Department fulfil absolutely all these requirements, and it is probable that plant will yet be found, better than any yet at present tried."

He then mentions a number of cover plants, but none of them come up to his ideal. I therefore presume the *cassia mimosoides* is a stranger to him, as he does not mention it, and funnily enough it's a legume that comes as close to his ideal as I fancy will ever be found. To enumerate—it's a *flat* spreading leguminous plant, *absolutely* thornless, *sensitive* in so far that it closes its leaves at night and during rain, opens directly the sun shines and thus conserves moisture, grows thick to the exclusion of weeds, is in *no* way turfy, does not attract vermin as far as my experience goes (I vouch for this as this district is rich in vermin of sorts), grows quickly, is a particularly free seeder, and if not a permanent cover will certainly re-sow itself so continually that the ground will never be clear of it, unless desired to be forked in as a mulch. Another advantage: it saves *wash* during heavy rain.

The plant grows well at *all* elevations. Its height will I'm sure never exceed 18 inches at the lowest altitude and from 4,000 to 6,000 feet above sea-level it grows practically *flat*. There is no doubt that it will as a cover plant rich in nitrogen suit *all* products. I do not know Mr. Carruthers' address, but if he or any planter interested in the subject wishes for any further information I shall always be happy to reply.

Root Disease of Rubber.

BLACK "HEVEA" FUNGUS IN THE F. M. S.

We recently published (Bulletin VIII. 310) some account of a pestilential black fungus attacking the shoots of rubber trees in Johore and Selangor. Specimens were sent to the Director of the Royal Gardens, Kew, who submitted them to Mr. Massee, the well-known authority on fungi, who reports on it as below. A fuller report will doubtless be published in the *Kew Bulletin*. In the meantime the past appears to be a serious one. Mr. Massee suggests it is a stage in the life-cycle of some species of *Rosellinia*, a genus which has supplied some of the most injurious fungi we know. It is disquieting to know that the fungus is doing damage in West Africa also as that seems to indicate that it is a plant of wide distribution. The *Nectria* mentioned in the last paragraph of Mr. Massee's report was a small orange-red fungus found on the outer bark of a Hevea tree where there had been an old wound and some of the wood was dead. It is probably harmless, only attacking dead wood, as it is a saprophyte.

FUNGUS ON PARA RUBBER FROM SINGAPORE.

The fungus proves to be an undescribed species of *Diplodia*, and will be described as *Diplodia rapax*. The general structure, habit and parasitic nature suggest that the *Diplodia* is a stage in the life-cycle of some species of *Rosellinia*. The ascigerous condition may be looked for on thoroughly dead and dry wood that had previously been attacked by the *Diplodia* form. In the first batch of specimen sent, the fungus was sterile, but fruit was present in abundance on the material received on October 28rd. The same fungus, parasitic on Hevea, has just been received at Kew from West Africa, where it is said to spread rapidly. The fungus sent in a match box is *Nectria sanguinea*, Fr., a saprophyte.—G. MASSEE.—26/10/09.—*Straits Agricultural Bulletin* for December.

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